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ABSTRACT

This document is the first volume of a two-volume report presenting the results of the 18th national survey of drug use and related attitudes among American high school seniors and the 13th national survey of American college students. Volume I contains the results from the secondary school samples of 8th, 10th, and 12th graders. The volume contains 10 chapters. Chapter 1 provides an introduction to the report. Chapter 2 contains an overview of key findings, looking at trends in illicit drug use, alcohol use, and cigarette smoking, and the drug use of 8th graders. It is noted that, over the last decade, there have been appreciable declines in the use of a number of illicit drugs among high school seniors. Chapter 3 describes the study design and procedures; chapter 4 considers the prevalence of drug use among 8th, 10th, and 12th graders; chapter 5 examines trends in drug use among secondary school students; and chapter 6 focuses on drug use at earlier grade levels. Chapter 7 concentrates on the degree and duration of drug highs. Chapter 8 explores attitudes and beliefs about drugs and chapter 9 considers the social milieu. Other findings from the study, including findings on the use of nonprescription stimulants and the use of marijuana on a daily basis are presented in chapter 10. Prevalence and trend estimates adjusted for absentees and dropouts are appended. Thirty-four tables and 36 figures are included. (NB)

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National Institute on Drug Abuse

NATIONAL SURVEY RESULTS ON DRUG USE
from
THE MONITORING THE FUTURE STUDY, 1975-1992

Volume I

Secondary School Students

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health

U.S. DEPARTMENT OF EDUCATION
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NATIONAL SURVEY RESULTS ON DRUG USE
from
MONITORING THE FUTURE STUDY, 1975-1992

Volume I

Secondary School Students

by

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ABBREVIATED TABLE OF CONTENTS*

Volume I

Detailed Contents iii

List of Tables ix

List of Figures xiii

Chapter 1 **Introduction** 1

Chapter 2 **Overview of Key Findings** 5

Chapter 3 **Study Design and Procedures** 25

Chapter 4 **Prevalence of Drug Use among Eighth, Tenth, and Twelfth Grade Students** 35

Chapter 5 **Trends in Drug Use** 73

Chapter 6 **Use at Earlier Grade Levels** 131

Chapter 7 **Degree and Duration of Drug Highs** 167

Chapter 8 **Attitudes and Beliefs about Drugs** 175

Chapter 9 **The Social Milieu** 213

Chapter 10 **Other Findings from the Study** 243

Appendix 1 **Prevalence and Trend Estimates Adjusted for Absentees and Dropouts** 259

Appendix 2 **Definition of Background and Demographic Subgroups** 267

*See next page for Detailed Contents.

DETAILED CONTENTS

Chapter 1 **Introduction** 1

Surveys of Secondary School Students 1
Surveys of College Students and Young Adults Generally 1
Content Areas Covered in This Report 2
Purposes and Rationale for This Research 3

Chapter 2 **Overview of Key Findings** 5

Trends in Illicit Drug Use 5
College-Noncollege Differences 11
Male-Female Differences 12
Trends in Alcohol Use 12
College-Noncollege Differences 13
Male-Female Differences 14
Trends in Cigarette Smoking 14
Age and Cohort-Related Differences 15
College-Noncollege Differences 15
Male-Female Differences 15
Racial/Ethnic Comparisons 16
Drug Use in Eighth Grade 17
Summary and Conclusions 18

Chapter 3 **Study Design and Procedures** 25

Research Design and Procedures for the Surveys of Seniors 25
The Population Under Study 25
The Omission of Dropouts 25
Sampling Procedures 27
Questionnaire Administration 27
Questionnaire Format 27
Research Design and Procedures for the Surveys of Lower Grades 27
Research Design and Procedures for the Follow-Up Surveys of Seniors 29
Follow-Up Procedures 29
Panel Retention Rates 30
Corrections for Panel Attrition 30
Representativeness and Validity 30
School Participation 30
Student Participation 31
Sampling Accuracy of the Estimates 31
Validity of the Measures of Self-Reported Drug Use 32
Consistency and the Measurement of Trends 33

DETAILED CONTENTS (continued)

Chapter 4 **Prevalence of Drug Use Among Eighth, Tenth, and Twelfth Grade Students** 35

Prevalence and Frequency of Drug Use in 1992: All Students 35
Lifetime, Annual, and Monthly Prevalence and Frequency 35
Daily Prevalence 46
Noncontinuation Rates 50
Prevalence Comparisons for Important Subgroups 52
Sex Differences 52
Differences Related to College Plans 61
Regional Differences 63
Differences Related to Population Density 65
Differences Related to Parental Education 66
Racial/Ethnic Differences 67

Chapter 5 **Trends in Drug Use** 73

Trends in Prevalence 1975-1992: Twelfth Graders 73
Trends in Prevalence 1991-1992: Eighth and Tenth Graders 97
Trends in Noncontinuation Rates: Twelfth Graders 100
Comparison Among Subgroups in Trends in Prevalence: Twelfth Graders Only 103
Sex Differences in Trends 103
Trend Differences Related to College Plans 109
Regional Differences in Trends 111
Trend Differences Related to Population Density 115
Differences in Trends by Socioeconomic Status 119
Racial/Ethnic Differences in Trends 127

Chapter 6 **Use at Earlier Grade Levels** 131

Incidence of Use by Grade Level 132
Trends in Use at Earlier Grade Levels 138

Chapter 7 **Degree and Duration of Drug Highs** 167

Degree and Duration of Highs among Twelfth Graders 167
Trends in Degree and Duration of Drug Highs 171

DETAILED CONTENTS (Continued)

Chapter 8 **Attitudes and Beliefs about Drugs** 175

Perceived Harmfulness of Drugs 175
Beliefs about Harmfulness Among Twelfth Graders 175
Beliefs about Harmfulness Among Eighth and Tenth Graders . 179
Trends in Perceived Harmfulness of Drugs 179
Trends in Perceived Harmfulness Among Twelfth Graders 179
Trends in Perceived Harmfulness Among Eighth and Tenth Graders 200
Personal Disapproval of Drug Use 201
Extent of Disapproval Among Twelfth Graders 201
Extent of Disapproval Among Eighth and Tenth Graders 204
Trends in Disapproval of Drug Use 204
Trends in Disapproval Among Twelfth Graders 204
Trends in Disapproval Among Eighth and Tenth Graders 206
Attitudes Regarding the Legality of Drug Use 206
Attitudes of Twelfth Graders 207
Trends in These Attitudes Among Twelfth Graders 207
The Legal Status of Marijuana 209
Attitudes and Predicted Responses to Legalization 209
Trends in Attitudes and Predicted Responses 211

Chapter 9 **The Social Milieu** 213

Perceived Attitudes of Parents and Friends: Twelfth Graders 213
Perceptions of Parental Attitudes 213
Perceptions of Friends' Attitudes 215
A Comparison of the Attitudes of Parents, Peers, and Twelfth Graders 219
Trends in Perceptions of Parents' and Friends' Attitudes 220
Friends' Use of Drugs 222
Exposure to Drug Use by Friends and Others: Twelfth Graders 222
Friends' Use of Drugs: Eighth and Tenth Graders 227
Trends in Friends' Use of Drugs 230
Trends in Exposure to Drug Use by Friends and Others: Twelfth Graders 230
Implications for Validity of Self-Reported Usage Questions 232
Trends in Friends' Use: Eighth and Tenth Graders 232
Perceived Availability of Drugs 233
Perceived Availability 233
Trends in Perceived Availability for Twelfth Graders 237
Trends in Perceived Availability for Eighth and Tenth Graders 241
The Importance of Supply Reduction vs. Demand Reduction ... 242

DETAILED CONTENTS (Continued)

Chapter 10 **Other Findings from the Study** 243

The Use of Nonprescription Stimulants 243
Prevalence of Use Among Seniors 243
Subgroup Differences 247
Trends in Use among Seniors 249
The Use of Marijuana on a Daily Basis 251
Lifetime Prevalence of Daily Use 251
Grade of First Daily Use 252
Recency of Daily Use 252
Duration of Daily Use 253
Subgroup Differences 253
Trends in Use of Marijuana on a Daily Basis 253
The Influence of Part-Time Work on Adolescents 256
Other Data on Correlates and Trends 258

Appendix 1 **Prevalence and Trend Estimates Adjusted for Absentees and Dropouts** 259

Correlations for Lower Grade Levels 259
The Effects of Missing Absentees 260
The Effects of Missing Dropouts 261
Extrapolating to Dropouts from Absentees 261
Extrapolating from the Household Surveys 263
Summary and Conclusions 264
Examples of Revised Estimates for Two Drugs 265

Appendix 2 **Definition of Background and Demographic Subgroups** 267

LIST OF TABLES

Table 1.	Trends in Prevalence of Various Drugs for Five Populations: 8th, 10th, 12th Graders, College Students, and Young Adults (Ages 19-28)	21
Table 2.	Sample Sizes and Response Rates.	28
Table 3.	Ninety-Five Percent Confidence Limits: Lifetime Prevalence, Eighth, Tenth, and Twelfth Graders, 1992	38
Table 4.	A Comparison of Drug Usage Rates, Eighth, Tenth, and Twelfth Graders, 1992	39
Table 5a.	Frequency of Use of Various Types of Drugs: Lifetime, Annual, and Thirty-Day, Eighth, Tenth, and Twelfth Graders, 1992	40
Table 5b.	Frequency of Occasions of Heavy Drinking, and Cigarette and Smokeless Tobacco Use, Eighth, Tenth, and Twelfth Graders, 1992	47
Table 6.	Lifetime Prevalence of Use of Various Types of Drugs by Subgroups, Twelfth Graders, 1992	53
Table 7.	Annual Prevalence of Use of Various Types of Drugs by Subgroups, Eighth, Tenth, and Twelfth Graders, 1992	54
Table 8.	Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups, Eighth, Tenth, and Twelfth Graders, 1992	57
Table 9.	Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes by Subgroups, Eighth, Tenth, and Twelfth Graders, 1992	60
Table 10.	Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Types of Drugs, Eighth, Tenth, and Twelfth Graders	69
Table 11.	Trends in Lifetime Prevalence of Various Types of Drugs for Twelfth Graders	74
Table 12.	Trends in Annual Prevalence of Various Types of Drugs for Twelfth Graders	76
Table 13.	Trends in Thirty-Day Prevalence of Various Types of Drugs for Twelfth Graders	77
Table 14.	Trends in Thirty-Day Prevalence of Daily Use of Various Types of Drugs for Twelfth Graders	78

LIST OF TABLES (continued)

Table 15. Trends in Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Grade Students 98

Table 16. Trends in Noncontinuation Rates Among Twelfth Graders Who Ever Used Drug in Lifetime 101

Table 17. Trends in Noncontinuation Rates Among Twelfth Graders Who Used Drug Ten or More Times in Lifetime 104

Table 18. Incidence of Use for Various Types of Drugs, by Grade
- a. Eighth Graders, 1992 134
- b. Tenth Graders, 1992 135
- c. Twelfth Graders, 1992 136
- d. A Comparison of Responses from Eighth, Tenth, and Twelfth Graders, 1992 137

Table 19. Trends in Harmfulness of Drugs as Perceived by Eighth, Tenth, and Twelfth Graders, 1991-1992 176

Table 20. Trends in Harmfulness of Drugs as Perceived by Twelfth Graders 177

Table 21. Trends in Disapproval of Drug Use by Eighth, Tenth, and Twelfth Graders, 1991-1992 202

Table 22. Trends in Proportions of Twelfth Graders Disapproving of Drug Use . . 203

Table 23. Trends in Twelfth Graders' Attitudes Regarding Legality of Drug Use . 208

Table 24. Trends in Twelfth Graders' Attitudes Regarding Marijuana Laws 210

Table 25. Trends in Proportion of Friends Disapproving of Drug Use 214

Table 26. Trends in Friends' Use of Drugs as Estimated by Eighth, Tenth, and Twelfth Graders, 1991-1992 223

Table 27. Trends in Proportion of Friends Using Drugs as Estimated by Twelfth Graders 224

Table 28. Trends in Twelfth Graders' Exposure to Drug Use 226

Table 29. Trends in Perceived Availability of Drugs: Eighth, Tenth, and Twelfth Graders, 1992 234

Table 30. Trends in Perceived Availability of Drugs, Twelfth Graders 236

LIST OF TABLES (Continued)

Table 31. Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence, by Sex
- a. Non-Prescription Diet Pills 244
- b. Stay-Awake Pills 245
- c. Look-Alikes 246

Table 32. Percent of Twelfth Graders in Each Category of an Illicit Drug Use Index Who Have Tried Various Over-the-Counter Stimulants, 1992 ... 250

Table 33. Daily Marijuana Use: Responses to Selected Questions by Subgroups, Twelfth Graders, 1992 254

Table 34. Trends in Daily Use of Marijuana in Lifetime by Subgroups, Twelfth Graders 255

LIST OF FIGURES

Figure 1. Counties Included in One Year's Data Collection 26

Figure 2. Prevalence and Recency of Use: Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1992 36

Figure 3. Thirty-Day Prevalence of Daily Use. Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1992 48

Figure 4. Noncontinuation Rates: Percent of Twelfth Graders Who Used Drug Once or More in Lifetime but Did Not Use in Past Year, 1992 51

Figure 5. States Included in the Four Regions of the Country 64

Figure 6. Trends in Lifetime Prevalence of an Illicit Drug Use Index for Twelfth Graders 79

Figure 7. Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders 80

Figure 8. Trends in Thirty-Day Prevalence of an Illicit Drug Use Index for Twelfth Graders 85

Figure 9. Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders

- a. Marijuana, Stimulants 84
- b. Nitrites, Inhalants, Tranquilizers 85
- c. Sedatives, Barbiturates, Methaqualone 86
- d. Hallucinogens, LSD, PCP 87
- e. Cocaine, Crack, Other Cocaine 88
- f. Heroin, Other Opiates, Steroids 89
- g. Alcohol, Been Drunk 90
- h. Cigarettes, Smokeless Tobacco 91

Figure 10. Trends in Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes for Twelfth Graders, by Total and by Sex 106

Figure 11. Trends in Two-Week Prevalence of Heavy Drinking Among Twelfth Graders, by Sex 107

Figure 12. Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders, by Sex 108

Figure 13. Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders, by College Plans 110

LIST OF FIGURES (Continued)

Figure 14a. Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders, by Region of the Country 112

Figure 14b. Trends in Lifetime Prevalence of Cocaine Use for Twelfth Graders, by Region of the Country 114

Figure 15a. Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders, by Population Density 116

Figure 15b. Trends in Annual Prevalence of Alcohol, Marijuana, and Cocaine Use for Twelfth Graders, by Population Density 117

Figure 16a. Marijuana: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders 121

Figure 16b. Cocaine: Trends in Annual Prevalence by Education of Parents for Twelfth Graders 122

Figure 16c. LSD: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders 123

Figure 16d. Amphetamines: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders 124

Figure 16e. Heavy Drinking: Trends in Two-Week Prevalence of 5 or More Drinks in a Row by Average Education of Parents for Twelfth Graders 125

Figure 16f. Cigarettes: Trends in Daily Prevalence by Average Education of Parents for Twelfth Graders 126

Figure 17a. Trends in Annual Prevalence of Marijuana and Cocaine Use for Twelfth Graders, by Race/Ethnicity 129

Figure 17b. Trends in Prevalence of 5 or More Drinks in a Row in the Past 2 Weeks and Daily Use of Cigarettes for Twelfth Graders, by Race/Ethnicity 130

LIST OF FIGURES (Continued)

Figure 18. Trends in Lifetime Prevalence for Earlier Grade Levels
- a. Use of Any Illicit Drug . . . 143
- b. Use of Any Illicit Drug Other Than Marijuana . . . 144
- c. Use of Any Illicit Drug Other Than Marijuana or Amphetamines . . . 143
- d. Marijuana . . . 146
- e. Inhalants . . . 147
- f. Nitrites . . . 148
- g. Hallucinogens . . . 149
- h. LSD . . . 150
- i. PCP . . . 151
- j. Cocaine . . . 152
- k. Crack Cocaine . . . 153
- l. Other Forms of Cocaine . . . 154
- m. Heroin . . . 155
- n. Other Opiates . . . 156
- o. Stimulants . . . 157
- p. Barbiturates . . . 158
- q. Methaqualone . . . 159
- r. Tranquilizers . . . 160
- s. Alcohol . . . 161
- t. Been Drunk . . . 162
- u. Cigarettes . . . 163
- v. Cigarette Smoking on a Daily Basis . . . 164
- w. Smokeless Tobacco . . . 165
- x. Steroids . . . 166

Figure 19. Degree of Drug Highs Attained by Recent Users, Twelfth Graders, 1992 . . . 168

Figure 20. Duration of Drug Highs Attained by Recent Users, Twelfth Graders, 1992 . . . 170

Figure 21a. Trends in Perceived Harmfulness of Marijuana Use for Twelfth Graders . . . 180

Figure 21b. Trends in Disapproval of Marijuana Use for Twelfth Graders . . . 181

Figure 22a. Trends in Perceived Harmfulness of Cocaine Use for Twelfth Graders . . . 182

Figure 22b. Trends in Disapproval of Cocaine Use for Twelfth Graders . . . 183

Figure 23. Marijuana: Trends in Perceived Availability, Perceived Risk of Regular Use, and Prevalence of Use in Past Thirty Days for Twelfth Graders . . . 184

LIST OF FIGURES (Continued)

Figure 24. Cocaine: Trends in Perceived Availability, Perceived Risk of Trying, and Prevalence of Use in Past Year for Twelfth Graders 185

Figure 25a. Trends in Perceived Harmfulness of Amphetamine and Barbiturate Use for Twelfth Graders 190

Figure 25b. Trends in Disapproval of Amphetamine and Barbiturate Use for Twelfth Graders 191

Figure 26a. Trends in Perceived Harmfulness of LSD Use for Twelfth Graders . . . 192

Figure 26b. Trends in Disapproval of LSD Use for Twelfth Graders 193

Figure 27a. Trends in Perceived Harmfulness of Heroin for Twelfth Graders 194

Figure 27b. Trends in Disapproval of Heroin Use for Twelfth Graders 195

Figure 28a. Trends in Perceived Harmfulness of Alcohol Use for Twelfth Graders . 196

Figure 28b. Trends in Disapproval of Alcohol Use for Twelfth Graders 197

Figure 29a. Trends in Perceived Harmfulness of One or More Packs of Cigarettes per Day for Eighth, Tenth, and Twelfth Graders 198

Figure 29b. Trends in Disapproval of One or More Packs of Cigarettes per Day for Eighth, Tenth, and Twelfth Graders 199

Figure 30. Trends in Disapproval of Illicit Drug Use, Twelfth Graders, Parents, and Peers
- a. Trying Marijuana Once or Twice, Occasionally, Regularly . . 216
- b. Trying Once or Twice Amphetamine, Cocaine, Barbiturate, LSD 217

Figure 31. Trends in Disapproval of Licit Drug Use, Twelfth Graders, Parents, and Peers 218

Figure 32. Proportion of Friends Using Each Drug as Estimated by Eighth, Tenth, and Twelfth Graders, 1992 228

Figure 33. Trends in Perceived Availability of Drugs for Twelfth Graders
- a. Marijuana, Amphetamines, Cocaine, Steroids, Crack, Ice, MDMA 238
- b. Barbiturates, Tranquilzers, Other Opiates, Heroin 239
- c. LSD, Other Psychedelics 240

LIST OF FIGURES (Continued)

Figure 34. Prevalence and Recency of Use, by Sex. Amphetamines and Non-Prescription Stimulants, Twelfth Graders, 1992 248

Figure A-1. High School Completion by Persons 20-24 Years Old, 1972-1992, U.S. Population 262

Figure A-2. Estimates of Prevalence and Trends for the Entire Age/Class Cohort, Adjusting for Absentees and Dropouts for Twelfth Graders 266

Chapter 1

INTRODUCTION

This two-part report presents the results of the eighteenth national survey of drug use and related attitudes among American high school seniors and the thirteenth such survey of American college students. This year's report also presents the results from the second national survey of eighth and tenth grade students. Volume I contains the results from the secondary school samples of eighth, tenth, and twelfth graders. The results from college students and young adults are reported in Volume II. All of these data derive from the ongoing national research and reporting program entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth, which is conducted at the University of Michigan's Institute for Social Research and has been funded through a series of research grants from the National Institute on Drug Abuse. The study is sometimes referred to as the High School Senior Survey, since each year a representative sample of all seniors in public and private high schools in the coterminous United States is surveyed. However, it also includes representative samples of young adults from previous graduating classes who are administered follow-up surveys by mail, and representative samples of American college students one to four years past high school also have been encompassed by these follow-up samples each year since 1980. Finally, in 1991 annual surveys of eighth and tenth grade students were added; thus the term National High School Senior Survey has become increasingly outdated.

SURVEYS OF SECONDARY SCHOOL STUDENTS

Two of the major topics which continue to be included in this series of annual reports are (1) the prevalence of drug use among American secondary school students (specifically in eighth, tenth, and twelfth grades), and (2) trends in use by those students (in the case of seniors, since the study began in 1975; in the case of eighth and tenth graders, since 1991). Distinctions among important demographic subgroups in these populations are made. Also reported are data on grade of first use, trends in use at lower grade levels, intensity of drug use, attitudes and beliefs among students concerning various types of drug use, and their perceptions of certain relevant aspects of the social environment.

In general, the annual surveys of eighth and tenth grade students use procedures and measures which closely parallel those for high school seniors, except that fewer questionnaire forms are used (two instead of six) and, therefore, fewer variables are measured on the younger students.

SURVEYS OF COLLEGE STUDENTS AND YOUNG ADULTS GENERALLY

Data on the prevalence and trends in drug use among young adults who have completed high school are also incorporated into this report series. These data are reported primarily in Volume II, though a brief summary of them is given in Chapter 2, "Overview of Key Findings." The period of young adulthood (late teens to the late twenties) is particularly important because this tends to be the period of peak use for many drugs.

The Monitoring the Future study design calls for continuing follow-up panel studies–through age 32–of a subsample of the participants in each participating senior class, beginning with the class of 1976. Thus, data were gathered in 1992 on representative samples of the graduating classes of 1978 through 1991, corresponding to modal ages of 19 to 32. Comprehensive results from this population are presented in Volume II.

Two chapters in Volume II present data on college students specifically. This segment of the young adult population has not been well represented in other national surveys, because many college students live on campus, in dormitories, fraternities, and sororities, and these group dwellings are not routinely included in the national household survey population, although the National Household Survey on Drug Abuse has recently been revised to include them. Trends are presented here on drug use among college students since 1980, the first year in which a good national sample of college students one to four years past high school was available from the follow-up survey. Thus, the 1992 study constitutes the thirteenth national survey of American college students in this series.

CONTENT AREAS COVERED IN THIS REPORT

Initially, eleven separate classes of drugs were distinguished for this series of reports: marijuana (including hashish), inhalants, hallucinogens, cocaine, heroin, opiates other than heroin (both natural and synthetic), stimulants (more specifically, amphetamines), sedatives, tranquilizers, alcohol, and tobacco. This particular organization of drug use classes was chosen to heighten comparability with a parallel series of publications based on the National Institute on Drug Abuse's national household surveys on drug abuse. Separate statistics are also presented here for several sub-classes of drugs within these more general classes: PCP and LSD (both hallucinogens), barbiturates and methaqualone (both sedatives), the amyl and butyl nitrites (both inhalants), and crack and other cocaine. Trend data for PCP and nitrites are available only since 1979 when questions about the use of these drugs were added to the study because of increasing concern over their rising popularity and possibly deleterious effects. For similar reasons, crack cocaine was added to the 1986 survey and the questions on crack were expanded in 1987. MDMA or "ecstasy" was added in 1989 (to follow-up surveys only) and crystal methamphetamine ("ice") was added in 1990. Barbiturates and methaqualone, which constitute the two components of the "sedatives" class as used here, have been separately measured from the outset. Data for them have been presented separately because their trend lines are substantially different. A somewhat different class of drugs–anabolic steroids–was added in 1989 because of its dangers and its increasing illicit use among young people.

For drugs other than alcohol, cigarettes, smokeless tobacco, and nonprescription stimulants, practically all of the information reported here deals with illicit use. Respondents are asked to exclude any occasions on which they used any of the psychotherapeutic drugs under medical supervision. (Some data on the medically supervised use of such drugs are contained

in the full 1977, 1978, 1981, and 1983 volumes, and a separate article gives trends in the medical use of these drugs.[1])

Throughout this report we have chosen to focus considerable attention on drug use at the higher frequency levels rather than simply reporting proportions who have ever used various drugs. This is done to help differentiate levels of seriousness, or extent, of drug involvement. While there still is no public consensus on what levels or patterns of use constitute "abuse," there is surely a consensus that higher levels of use are more likely to have detrimental effects for the user and society than are lower levels. We have also introduced indirect measures of dosage per occasion, by asking respondents the duration and intensity of the highs they usually experience with each type of drug. Chapter 7 of this report deals with those results.

For both licit and illicit drugs, separate chapters are devoted to age of first use; the students' own attitudes and beliefs; the attitudes, beliefs, and behaviors of others in their social environment; and perceived drug availability. Some of these variables have proven to be very important explanators of the secular trends in use which have been observed.

Chapter 10, "Other Findings from the Study," deals with the use of nonprescription stimulants including diet pills, stay-awake pills, and the "look-alike" pseudo-amphetamines. Questions on these substances were placed in the survey beginning in 1982 because the use of such substances appeared to be on the rise, and also because their inappropriate inclusion by some respondents in their answers about amphetamine use were affecting the observed trends. This chapter continues to present trend results on those nonprescription substances.

Trend results from a set of questions on the use of marijuana at a daily or near-daily level are also presented in Chapter 10. These questions were added to enable us to develop a more complete individual history of daily use over a period of years, and they reveal some very interesting facts about the frequent users of this drug.

PURPOSES AND RATIONALE FOR THIS RESEARCH

Perhaps no area has proven more clearly appropriate for the application of systematic research and reporting than the drug field, given its rapid rate of change, its importance for the well-being of the nation, and the amount of legislative and administrative intervention which continues to be addressed to it. Young people are often at the leading edge of social change–and this has been particularly true in the case of drug use. The massive upsurge in illicit drug use during the last twenty-five years has proven to be very much a youth phenomenon, with onset of use most likely to occur during adolescence. Young adults in their twenties are also among the age groups at highest risk for illicit drug use: indeed, the widespread epidemic of the last twenty years really began on the nation's college campuses. From one year to the next particular drugs rise or fall in popularity, and related problems occur for youth, for their families, for governmental agencies, and for society as a whole. This

[1]Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1987). Psychotherapeutic, licit, and illicit use of drugs among adolescents: An epidemiological perspective. *Journal of Adolescent Health Care, 8*, 36-51.

year's findings show that changes continue to take place. Indeed, now that trend data are available on younger adolescents, the trend story has become considerably more complex.

One of the major purposes of the Monitoring the Future series is to develop an accurate picture of the current drug use situation and trends–this in itself is a formidable task, given the illicit and illegal nature of most of the phenomena under study. Having a reasonably accurate picture of the basic size and contours of the problem of illicit drug use among young Americans is a prerequisite for rational public debate and policy making. In the absence of reliable *prevalence* data, substantial misconceptions can develop and resources can be misallocated. In the absence of reliable data on *trends*, early detection and localization of emerging problems are more difficult, and assessments of the impact of major historical and policy-induced events are much more conjectural.

The study also monitors a number of factors with which we hoped to be able to *explain* the changes observed in drug use. A number of them are presented in this series of volumes, including peer norms regarding drugs, beliefs about the dangers of drugs, perceived availability, and so on. In fact, monitoring these factors has made it possible to examine a central policy issue for the country in its war on drugs–namely the relative importance of supply reduction effects vs. demand reduction effects in bringing about some of the observed declines in drug use.

In addition to accurately assessing prevalence and trends and trying to determine the causes of them, the Monitoring the Future study also has many important research objectives which are not addressed in this series of volumes. Among these other objectives are: helping to determine which young people are at greatest risk for developing various patterns of drug abuse; gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use, and monitoring how those orientations are shifting over time; determining the immediate and more general aspects of the social environment which are associated with drug use and abuse; determining how drug use is affected by major transitions in social environment–such as entry into military service, civilian employment, college, unemployment, or in social roles–marriage, pregnancy, parenthood; determining the life course of the various drug-using behaviors from early adolescence to middle adulthood; distinguishing such "age effects" from cohort and period effects in determining drug use; determining the effects of social legislation on various types of substance use; and, determining the changing connotations of drug use and changing patterns of multiple drug use among youth. We believe that the differentiation of period, age, and cohort effects in substance use of various types has been a particularly important contribution of the project, and one which its cohort-sequential research design is especially well-suited to make. Readers interested in publications dealing with any of these other areas should write the authors at the Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 48106-1248.

Chapter 2

OVERVIEW OF KEY FINDINGS

This monograph reports findings from the ongoing research and reporting project entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth. Each year since 1975, in-school surveys of nationally representative samples of high school seniors have been conducted. In addition, each year since 1976, representative subsamples of the participants from each previous graduating class have been surveyed by mail. Beginning in 1991, in-school surveys of nationally representative samples of eighth and tenth grade students have also been conducted annually.

Findings on the prevalence and trends in drug use and related factors are presented in Volume I of this report for eighth, tenth, and twelfth grade students; detailed findings for college students and young adult high school graduates 19-32 years old are presented in Volume II. Trend data are presented for varying time intervals, ranging from just 2 years (1991 to 1992) for eighth and tenth grade students, and up to eighteen years in the case of the high school senior population (i.e., since 1975). For college students, a particularly important subset of the young adult population (on which there currently exist no other nationally representative data), prevalence and trend results since 1980 are presented in Volume II.

The high school dropout segment of the population–about 15%-20% of an age group–is of necessity omitted from the coverage of high school seniors, college students, and young adults, though this omission would have negligible effect on the coverage of college students. An appendix to this report discusses the likely effect of omitting dropouts from the sample coverage at senior year. Very few students will have left school by eighth grade, of course, and relatively few by the end of tenth grade, so the results of the school surveys at those levels should be generalizable to the great majority of the relevant age cohorts.

Findings from all five of these national populations–eighth grade students, tenth grade students, twelfth grade students, college students, and young adult high school graduates through age 32–have been summarized and integrated in this chapter so that the reader may quickly get an overview of the key results. Detailed findings on college students and all young adults are presented separately in Volume II of this report, which is published a few months subsequent to Volume I. Because so many populations, drug classes, and prevalence intervals are discussed here, a singe integrative table (Table 1) showing the 1991 to 1992 one-year trends is included in this chapter.[2]

TRENDS IN ILLICIT DRUG USE

- The trend story has become considerably more complicated to summarize this year, due to several factors: (a) there are more populations being tracked, because trend data are now available on

[2]The young adult sample is limited to the age band 19-28 in Table 1 and in nearly all of the discussion in this chapter, bacause trend data are available for a longer time than is true for the full age band of 19-32.

eighth and tenth graders; (b) there are some reversals in the recent downward trends in use and upward trends in the perceived risk and disapproval associated with drug use; and (c) not all populations moved in parallel this year. These complicating factors are very important because they could presage an end to the improvements in the drug situation that the nation may be taking for granted.

- Only one of the three populations on which we have long-term trend data (high school seniors, college students, and young adults aged 19 to 28) showed a continuation of the longer-term decline in the proportion using ***any illicit drug***. Annual prevalence (i.e., use of any illicit drug one or more times in the prior 12 months) fell by 2.3 percentage points among seniors to 27% in 1992–exactly half the peak level of 54% in 1979. College students and young adults, however, who are also well below their peak levels of use, showed nonsignificant increases in 1992 to 31% and 28% annual prevalence rates, respectively.

- The proportions using ***any illicit drug other than marijuana*** in the prior year fell by 1.3 percentage points among seniors to 15% (not a statistically significant change), a rate which is substantially below the 34% peak rate in 1981. Again, there was no change for college students or young adults, 13% and 14% of whom, respectively, report such use.

- The use of ***crack*** cocaine appeared to level in 1987 at relatively low prevalence rates, at least within these populations. (This occurred despite the fact that the crack phenomenon continued a process of diffusion to new communities that year.) In 1992, annual prevalence held steady at its 1991 rate of 1.5% among twelfth graders (down from 3.9% in 1987). Among young adults one to ten years past high school, annual prevalence was 1.4%, and 0.4% among college students–both unchanged in 1992. For twelfth graders, annual crack prevalence among the college-bound is lower than among those not bound for college (1.0% vs. 2.6%).

  There is now rather little regional variation in crack use with annual prevalence among seniors highest in the West (2.1%), followed by the North Central (1.4%), the Northeast (1.3%), and the South (1.2%). Use is now lower in the large cities and the nonmetropolitan areas (both at 1.3%) than in the smaller cities at 1.6%.

  We believe that the particularly intense media coverage of the hazards of crack cocaine, which took place quite early in what could have been a considerably more serious epidemic, likely had the effect of "capping" that epidemic early by deterring many would-be users and by motivating many experimenters to desist use. While 2.6% of seniors report ever having tried crack, only 0.6% report use in the past month, indicating noncontinuation by 77% of those who try it. The longer-term

downward trend can be explained both in terms of lower initiation rates among students and higher noncontinuation rates.

- ***Cocaine*** in general began to decline a year earlier than crack; between 1986 and 1987 the annual prevalence rate dropped dramatically by roughly four-tenths in all three populations studied.[3] As we had predicted earlier, the decline occurred when young people began to see experimental and occasional use–the type of use in which they are most likely to engage–as more dangerous; and this happened by 1987, probably partly because the hazards of cocaine use received extensive media coverage in the preceding year, but almost surely in part because of the cocaine-related deaths in 1986 of sports stars Len Bias and Don Rogers.

  In 1992, this broad decline continued, with annual prevalence falling by nonstatistically significant amounts in all populations *except* eighth graders, who actually showed a statistically significant increase in use. Annual prevalence of cocaine use has fallen by more than two-thirds among the three populations for which long-term data are available.

  Having risen substantially since 1986, the perceived risk of using cocaine in general showed no further change in 1991 among seniors and actually showed some (nonsignificant) decline in 1992. Perceived risk for crack in particular actually dropped in 1991 and still remains below its 1990 peak level–perhaps due to much less public attention being paid to the drug. The earlier rise in student disapproval of cocaine use stalled in 1992.

  Through 1989, there was no decline in perceived availability; in fact, it rose steadily after 1984 suggesting that decreased availability played no role in bringing about the substantial downturn in use. After 1989, however, perceived availability fell some among seniors, which may be explained by the greatly reduced proportions of seniors who say they have any friends who use, since friendship circles are an important part of the supply system. Eighth and tenth graders reported a significant increase in the availability of crack and other cocaine in 1992.

  As with all the illicit drugs, lifetime cocaine prevalence climbs with age, exceeding 30% by age 27. Unlike all of the other illicit drugs, active use–i.e., annual prevalence or monthly prevalence–also climbs substantially after high school.

- The annual prevalence of ***marijuana*** use among seniors continued its long decline, and fell significantly to the lowest level since the study began (22%, down 2 percentage points from 1991 and down by more

[3]Unless otherwise specified, all references to "cocaine" refer to the use of cocaine in any form, including crack.

than half from a peak level of 51% in 1979). College students and young adults, although at much lower levels of marijuana use than in earlier years, did not show a decline in annual prevalence in 1992 (even though their lifetime rates continued to drop). Their increases of about 1.3 percentage points in annual prevalence (to 28% and 25%, respectively) were not statistically significant, but the increase of 1.0 percentage points among eighth graders (to 7.2%) was.

- ***Daily marijuana*** use remained unchanged for all five populations. Still, the current rates are dramatically lower than in earlier years, down by more than eight-tenths among seniors (to 1.9% vs. 10.7% in the peak year of 1978) and by nearly eight-tenths among college students (to 1.6% from our first reading of 7.2% in 1980).

- In the last couple of years we noted an increase in the use of ***LSD***–a drug of the late 1960s and early 1970s–among college students and young adults. In 1992, all five populations showed an increase in annual prevalence of LSD use though only the one-year increase among eighth graders (from 1.7% to 2.1%) was statistically significant. The 1989-1992 increase for college students is from 3.4% to 5.7%, and for young adults is from 2.7% to 4.3%. While these are not yet dramatic changes they certainly appear to be real and they certainly challenge the notion that "all's well on the drug front." Among seniors in 1992 there was a significant decline of 4.3 percentage points in the proportion seeing great risk associated with trying LSD and a two percentage point decline (nonsignificant) in the proportion disapproving it. Since LSD was one of the earliest drugs popularly used in the overall American drug epidemic, there is a distinct possibility that young people–particularly the youngest cohorts, like the eighth graders–are not as concerned about the risks of use. They have had less opportunity to learn vicariously about the consequences of use by others around them, or to learn from intense media coverage of the issue. This type of "generational forgetting" could set the stage for a whole new epidemic of use.

- The ***inhalants*** constitute another class of abusable substance which bears careful watching. This class of drugs is defined by the form of the substance and its mode of administration–fumes or gases which are inhaled to get high. It includes common household substances such as glues, aerosols, butane, solvents, and so on. One class of inhalants, ***amyl and butyl nitrites***, became somewhat popular in the late 1970s, but their use has been almost eliminated. For example, annual prevalence among twelfth grade students was 6.5% in 1979 but only 0.5% in 1992.

  When the nitrites are removed from consideration, it appears that all other inhalants taken together have had an upward trend in use, from 3.0% among seniors in 1976 to 6.9% in 1990 (and 6.2% in 1992). It

appears from the retrospective usage data supplied by twelfth grade students that the increase in inhalant use (unadjusted to include the nitrites) also increased at lower grade levels, where inhalant use is more common, during the late 1980s. Between 1991 and 1992 eighth and tenth grade students showed a nonstatistically significant rise in annual prevalence. Some 10% of the 1992 eighth graders and 8% of the tenth graders indicated use in the prior 12 months, making inhalants the most widely used class of illicitly used drugs for eighth graders and the third most widely used (after marijuana and stimulants) for the tenth graders. The inhalants can and do cause death, and tragically, this often occurs among youngsters in their early teens.

- Prescription-controlled ***stimulants***–one of the most widely used classes of drugs taken illicitly (i.e., outside of medical regimen)–continued their long-term decline among twelfth graders, college students, and young adults, although declines among the latter two groups have become very small because of their low levels of use. Since 1982, annual prevalence has fallen from 20% to 7% among seniors and from 21% to 4% among college students. Annual prevalence is also 4% among young adults, down from 11% in 1986, the first year data were available for 19-28 year olds. However, tenth graders, who have an 8% annual prevalence, showed no change in use, and eighth graders, who have a 7% annual prevalence, showed some increase. (The increase of 0.3 percentage points in eighth grade students' annual use was not significant but the 30-day increase of 0.7 percentage points was.)

- The annual prevalence among seniors of over-the-counter ***stay-awake pills***, which usually contain caffeine as their active ingredient, nearly doubled in eight years, from 12% in 1982 to 23% in 1990. Since 1990 this statistic has fallen back some to 20% in 1992. Increases also occurred among the college-age young adult population (ages 19-22), where annual prevalence had been as high as 26% in 1989, but is now down to 16% in 1992.

  The other two classes of nonprescription stimulants–the ***look-alikes*** and the over-the-counter ***diet pills***–have also shown some fall-off among both seniors and young adults in recent years. Still, among seniors some 23% of the females have tried diet pills by the end of senior year, 12% have used them in the past year, and 6% in just the past month.

- ***PCP*** use among seniors fell sharply, from an annual prevalence of 7.0% in 1979 to 2.2% in 1982. It reached a low point of 1.2% in 1988, increased a bit to 2.4% in 1989, and then fell back to 1.4% by 1992. For the young adults, the annual prevalence rate is now only 0.3%.

- The annual prevalence of ***heroin*** use has been very steady since 1979 among seniors at 0.5% to 0.6%. (Earlier, it had fallen from 1.0% in

1975.) It stands at 0.6% in 1992. The heroin statistics for young adults and college students also have remained quite stable in recent years at low rates (about 0.1% to 0.2%). Eighth and tenth graders have about the same annual prevalence as twelfth graders (0.7% and 0.6%, respectively) which is probably due to the fact that the eventual dropouts are captured in the lower grades but not in twelfth grade. The rates in eighth and tenth grades remained unchanged in 1992.

It is noteworthy that the perceived availability of heroin has risen considerably between 1986 (when 22% of seniors said it would be fairly easy to get) and 1992 (when 35% said the same), yet there has been no change in self-reported use in this population.

- The use of ***opiates other than heroin*** had been fairly level over most of the life of the study. Seniors had an annual prevalence rate of 4% to 6% since 1975. However, in 1991 the first recent significant decline was observed (from 4.5% to 3.5%) although no further changes occurred in 1992. Young adults in their twenties have generally shown a very gradual decline from 3.1% in 1986 to 2.5% in 1992; college students have likewise shown a slow decrease, from 3.8% in 1982-1984 to 2.7% in 1991-1992. Data are not reported for younger grade levels because we believe the students are not accurately discriminating among the drugs which should be included or excluded from this class.

- A long and substantial decline, which began in 1977, has occurred for ***tranquilizer*** use among high school seniors. Annual prevalence now stands at 2.8% compared to 11% in 1977. For the young adult sample, annual prevalence has now declined to 3.4% and for the college student sample to 2.9%. In 1992, this decline continued only among seniors, with no significant changes for the other four populations.

- The long-term gradual decline in ***barbiturate*** use, which began at least as early as 1975, when the study began, halted in 1988; the annual prevalence among seniors fell to 3.2%, compared to 10.7% in 1975. (It stands at 2.8% in 1992.) Annual prevalence of this class of sedative drugs is even lower among the young adult sample (1.6%), and lower still among college students specifically (1.4%). For these groups there has been no further change since 1988. As with the opiates other than heroin, we do not include data here for lower grades because we believe the younger students have more problems with the proper classification of relevant drugs.

- ***Methaqualone***, another sedative drug, has shown quite a different trend pattern than barbiturates. Its use rose steadily among seniors from 1975 to 1981, when annual prevalence reached 8%. It then fell rather sharply to 0.5% by 1991 and remains at 0.6% in 1992. Use also fell among all young adults and among college students, which had annual prevalence rates of only 0.3% and 0.2%, respectively in 1989–the

last year in which they were asked about this drug. In recent years, shrinking availability may well have played a role in this drop, as legal manufacture and distribution of the drug ceased. Because of its very low usage rates, only the seniors are now asked about their use of this drug.

- In sum, five classes of illicitly used drugs which have had an impact on appreciable proportions of young Americans in their late teens and twenties are ***marijuana***, ***cocaine***, ***stimulants***, ***LSD***, and ***inhalants***. In 1992, high school seniors showed annual prevalence rates of 22%, 3%, 7%, 6%, and 6%, respectively. Among college students in 1992, the comparable annual prevalence rates are 28%, 3%, 4%, 6%, and 3%; and for all high school graduates one to ten years past high school (young adults) the rates are 25%, 6%, 4%, 4%, and 2%. It is worth noting that LSD has climbed in the rankings because it either has not declined, or in some cases has increased, during a period in which cocaine, amphetamines, and other drugs have declined appreciably. The ***inhalants*** have become relatively more important for similar reasons.

  Clearly, cocaine is relatively more important in the older age group and inhalants are relatively more important in the younger ones. In fact, inhalants are the most widely used of the illicit drugs in eighth grade.

College-Noncollege Differences

- American college students (defined here as those respondents one to four years past high school who were actively enrolled full-time in a two- or four-year college) show annual usage rates for a number of drugs which are about average for their age group, including ***any illicit drug***, ***marijuana*** specifically (although their rate of ***daily marijuana use*** is about two-thirds what it is for the rest of their age group, i.e., 1.6% vs. 2.4%), ***inhalants***, ***hallucinogens***, ***heroin***, ***LSD***, ***opiates other than heroin***, and ***tranquilizers***. For several categories of drugs, however, college students have rates of use which are below those of their age peers, including ***any illicit drug other than marijuana***, ***cocaine***, ***crack*** cocaine specifically, ***stimulants***, and ***barbiturates***. They actually have a slightly higher rate of use for ***MDMA*** or "ecstasy."

  Since college-bound seniors had below average rates of use on all of these illicit drugs while they were in high school, their eventually attaining parity on many of them reflects some closing of the gap. As results from the study published elsewhere have shown, this college effect of "catching up" is largely explainable in terms of differential rates of leaving the parental home and of getting married. College students are more likely to have left the parental home and less likely to have gotten married than their age peers.

- In general, the trends since 1980 in illicit substance use among American college students have been found to parallel those of their age peers not in college. That means that for most drugs there has been a decline in use over the interval. Further, all young adult high school graduates through age 28, as well as college students taken separately, show trends which, for the most part, are highly parallel to the trends among high school seniors, although declines in the active use of many of the drugs over the past half decade have been proportionately larger in these two older populations than among high school seniors.

Male-Female Differences

- Regarding sex differences in three populations (seniors, college students, and young adults), males are more likely to use ***most illicit drugs***, and the differences tend to be largest at the higher frequency levels. ***Daily marijuana use*** among high school seniors in 1992, for example, is reported by 2.8% of males vs. 1.0% of females; among all young adults by 3.6% of males vs. 1.3% of females; and among college students, specifically, by 2.6% of males vs. 0.8% of females. The only exceptions to the rule that males are more frequently users of illicit drugs than females occur for ***stimulant*** and ***tranquilizer*** use in high school, where females are at the same level or slightly higher. The sexes also attain near parity on stimulant and tranquilizer use among the college and young adult populations.

- In the eighth and tenth grade samples, however, there are fewer sex differences in the use of drugs–perhaps because the girls tend to date older boys who are in age groups considerably more likely to use drugs. There is little male-female difference in eighth and tenth grades, for example, in the use of ***inhalants***, ***cocaine***, and ***crack***. As with the older age groups, ***stimulant*** and ***tranquilizer*** use are actually higher among females.

TRENDS IN ALCOHOL USE

- Regarding ***alcohol*** use in these age groups, several findings are noteworthy. First, despite the fact that it is illegal for virtually all high school students and most college students to purchase alcoholic beverages, experience with alcohol is almost universal among them (69% of eighth graders have tried it, 82% of tenth graders, 88% of twelfth graders, and 92% of college students) and active use is widespread. Most important, perhaps, is the widespread occurrence of occasions of heavy drinking–here measured by the percent reporting five or more drinks in a row at least once in the prior two-week period. Among eighth graders this statistic stands at 13%, among tenth graders at 21%, among twelfth graders at 28%, and among college students at

41%. After the early twenties this behavior recedes some as is reflected by the 34% found in the entire young adult sample.

- Regarding trends in alcohol use, during the period of recent decline in the use of marijuana and other *illicit* drugs there appears not to have been any "displacement effect" in terms of any increase in alcohol use among seniors. (It was not uncommon to hear such a displacement hypothesis asserted.) If anything, the opposite seems to be true. Since 1980, the monthly prevalence of alcohol use among seniors has gradually declined, from 72% in 1980 to 51% in 1992. ***Daily use*** declined from a peak of 6.9% in 1979 to 3.4% in 1992; and the prevalence of drinking ***five or more drinks in a row*** during the prior two-week interval fell from 41% in 1983 to 28% in 1992–nearly a one-third decline.

  In 1992 statistically significant declines occurred in all of the populations, except eighth graders, in the prevalence of drinking in the prior 30-days, i.e., in "current prevalence." There were also declines, though none were statistically significant, in the binge drinking rate for all but the eighth grade population. Eighth graders showed increases on both measures, though they were not statistically significant.

College-Noncollege Differences

- The data from college students show a quite different pattern of change in relation to alcohol use. They show less drop-off in monthly prevalence since 1980 (82% to 71% in 1992) and slightly less decline in ***daily use*** (6.5% in 1980 to 3.7% in 1992). There has also been little change in ***occasions of heavy drinking***, which is at 41% in 1992–higher than the 28% among high school seniors. Since both their noncollege-age peers and high school seniors have been showing a net decrease in occasions of heavy drinking since 1980, the college students stand out in having maintained a very high rate of binge or party drinking. Since the college-bound seniors in high school are consistently *less* likely to report occasions of heavy drinking than the noncollege-bound, this reflects their "catching up and passing" their peers after high school.

- In most of these surveys from 1980 onward, college students have had a ***daily drinking*** rate (3.7% in 1992) which is slightly lower than that of their age peers (4.0% in 1992), suggesting that they are slightly more likely to confine their drinking to weekends, on which occasions they tend to drink a lot. Again, college men have much higher rates of daily drinking than college women: 4.8% vs. 2.8%. The rate of daily drinking has fallen considerably among the noncollege group from 8.7% in 1981 to 4.0% in 1992, compared to a drop from 4.1% to 3.7% in the college population.

Male-Female Differences

- Quite substantial sex differences remain among high school seniors in the prevalence of ***occasions of heavy drinking*** (20% for females vs. 36% for males in 1992); generally this difference has been diminishing very gradually for more than a decade.

- Very substantial sex differences also remain in alcohol use among college students, and young adults generally, with males drinking more. For example, 51% of college males report having ***five or more drinks in a row*** over the previous two weeks vs. 33% of college females. However, there has been little change in the differences between 1980 and 1992.

TRENDS IN CIGARETTE SMOKING

- A number of important findings have emerged from the study concerning ***cigarette smoking*** among American adolescents and young adults. Of greatest importance is the fact that by late adolescence sizeable proportions of young people still are establishing regular cigarette habits, despite the demonstrated health risks associated with smoking. In fact, since the study began in 1975, cigarettes have consistently comprised the class of substance most frequently used on a daily basis by high school students.

- While the ***daily smoking*** rate for seniors did drop considerably between 1977 and 1981 (from 29% to 20%), it has dropped very little during the intervening eleven years (by another 3.1%, to 17.2%) despite the appreciable downturn which has occurred in most other forms of drug use (including alcohol) during this period. And, despite all the adverse publicity and restrictive legislation addressed to the subject during the 1980's, the proportion of seniors who perceive "great risk" to the user of suffering physical (or other) harm from pack-a-day smoking has risen only 5.5% since 1980 (to 69% in 1992). That means that nearly a third of seniors still do not feel there is a great risk associated with smoking.

- The story may be even more troublesome at the lower grade levels. While we do not have long-term trends from eighth and tenth graders, their ***current smoking*** rates were up, if anything, (though not significantly) in the past year to 16% and 22%, respectively. Of particular concern, only 51% of the eighth-grade students and 59% of the tenth-grade students think that a pack-a-day smoker runs a great risk of harm from that behavior. This fact suggests that the health message has not reached American youngsters at the ages when most of the eventual smokers first initiate smoking. Further, there is no indication of any increase in perceived risk (or of disapproval) of

smoking in these age groups. Given that cigarette smoking is the greatest preventable cause of death and disease in the country, the need for a more intense and effective prevention effort aimed at younger children is clearly very great.

Age and Cohort-Related Differences

- Initiation of daily smoking most often occurs in grades 6 through 9 (i.e., at modal ages 11-12 to 14-15), with rather little further initiation after high school, although a number of light smokers make the transition to heavy smoking in the first two years after high school. Analyses presented in this volume and elsewhere have shown that cigarette smoking shows a clear "cohort effect." That is, if a class (or birth) cohort establishes an unusually high rate of smoking at an early age relative to other cohorts, it is likely to remain high throughout the life cycle.

- As we reported in the "Other Findings from the Study" chapter in the 1986 volume in this series, some 53% of the half-pack-a-day (or more) smokers in senior year said that they had tried to quit smoking and found they could not. Of those who were daily smokers in high school, nearly three-quarters were daily smokers 7 to 9 years later (based on the 1985 survey), despite the fact that in high school only 5% of them thought they would "definitely" be smoking 5 years hence. Clearly, the smoking habit is established at an early age; it is difficult to break for those young people who have it; and young people greatly overrate their own ability to quit. And with the addition of eighth and tenth grade students to the study, we now know that younger children are even more likely than older ones to underestimate the dangers of smoking.

College-Noncollege Differences

- A striking difference exists between college-bound and noncollege-bound high school seniors in terms of smoking rates. For example, smoking half-pack or more a day is nearly three times as prevalent among the noncollege-bound (19% vs. 7%). Among respondents one to four years past high school, those not in college show the same dramatically higher rate of smoking compared to college students, with half-pack-a-day smoking standing at 21% and 9%, respectively.

Male-Female Differences

- Since 1980, among college students, females have had slightly higher probabilities of being daily smokers. This long-standing sex difference has not been true of their age peers who are not in college.

355-233 - 93 - 2 (Vol. 1) QL 3

RACIAL/ETHNIC COMPARISONS

While we have published articles elsewhere on ethnic differences in drug use, this is only the second volume in this series to include prevalence and trend data for the three largest ethnic groupings–whites, blacks, and Hispanics taken as a group. (Sample size limitations simply do not allow finer subgroup breakdowns unless many years are combined.) Further, 1991 was the first year in which we had data on eighth and tenth graders, for whom ethnic comparisons would be less likely to be affected by differential dropout rates among the three groups than would be true for seniors. A number of interesting findings emerge in these comparisons, and the reader is referred to Chapters 4 and 5 for a full discussion of them.

- Black seniors have consistently shown lower usage rates on most drugs, licit and illicit, than white students; and we now know that this also is true at the lower grade levels. In some cases, the differences are quite large.

- Black students have a much lower prevalence of ***daily cigarette smoking*** than white students (4% vs. 21% in senior year) because their smoking rate continued to decline after 1983, while the rate for whites stabilized.

- In twelfth grade, ***binge drinking*** is much less likely to be reported by black students (11%) than by white (32%) or Hispanic students (31%).

- In twelfth grade, of the three groups, whites have the highest rates of use on a number of drugs, including ***inhalants, hallucinogens, LSD*** specifically, ***barbiturates, amphetamines, tranquilizers, opiates other than heroin***, and ***cigarettes***. In 1992 ***marijuana*** and ***alcohol*** usage rates are about equivalent for whites and Hispanics, but whites have previously had the highest rates on these drugs, as well.

- However, Hispanics have the highest usage rates in senior year for a number of the most dangerous drugs: ***cocaine, crack, other cocaine, heroin***, and ***steroids***. Further, in eighth grade, Hispanics have the highest rates not only on these drugs, but on many of the others. For example, in eighth grade, the lifetime prevalence for Hispanics, whites, and blacks is 19%, 10%, and 7% for ***marijuana***; 20%, 18%, and 10% for ***inhalants***; 6%, 4%, and 1% for ***hallucinogens***; 51%, 46%, and 32% for ***cigarettes***; and 20%, 13%, and 10% for ***binge drinking*** in the past two weeks. In other words, Hispanics have the highest rates of use for nearly all drugs in eighth grade, but not in twelfth, which suggests that their considerably higher dropout rate (compared to whites and blacks) may change their relative ranking by twelfth grade. Hispanics could also have a tendency to begin use earlier but sofar we have found no evidence to support this hypothesis.

- With regard to trends, seniors in all three racial/ethnic groups exhibited the recent decline in ***cocaine*** use, although black seniors, who did not show as large an increase in use in earlier years, therefore did not have as large a decline in later ones.

- For virtually ***all of the illicit drugs***, the three groups have tended to trend in parallel. Because white seniors had achieved the highest level of use on a number of drugs–including ***stimulants, barbiturates, methaqualone***, and ***tranquilizers***–they also had the largest declines; blacks have had the lowest rates, and therefore, the smallest declines.

- Important racial/ethnic differences in ***cigarette smoking*** have emerged among seniors during the life of the study. In the late 70's, the three groups were fairly similar in their smoking rates; all three mirrored the general decline in smoking from 1977-1981. Since 1981, however, a considerable divergence has emerged: Smoking rates have declined very little for whites and Hispanics, but the rates for blacks continued to decline steadily. As a result, in 1992, the smoking rates for blacks are about one-fifth to one-third those for whites.

DRUG USE IN EIGHTH GRADE

It may be useful to focus specifically on the youngest age group in the study–the eighth graders–who are about 13 to 14 years old, because the exceptional level of use that they already have attained helps illustrate the urgent need this country has to continue to address the problems of substance abuse among its young.

- By eighth grade 69% of youngsters report having tried ***alcohol*** and more than a quarter (27%) say they have already been drunk at least once.

- ***Cigarettes*** have been tried by nearly half of eighth graders (45%) and 16%, or one in seven, say they have smoked in the prior month. Only 51% say they think there is great risk associated with being a pack-a-day smoker.

- ***Smokeless tobacco*** has been tried by 34% of the male eighth graders, is used currently by 13% of them, and is used daily by 3.4%. Rates are far lower among the female eighth graders.

- Among eighth graders, more than one in every six (17%) have used ***inhalants*** and 5% say they have used in the past month. This is the only class of drugs for which current use is substantially higher in eighth grade than in tenth or twelfth grade (see Table 1).

- ***Marijuana*** has been tried by one in every nine eighth graders (11%), and has been used in the prior month by 4%.

- A surprisingly large number say they have tried prescription-type ***stimulants*** (11%) one in thirty (3%) say they have used them in the prior 30 days.

- Consistent with the retrospective reports from seniors, which have been included in this series of reports in previous years, relatively few of today's eighth graders say they have tried most of the other illicit drugs yet.

  But the proportions having at least some experience with them still is not inconsequential: ***tranquilizers*** (4.1%), ***LSD*** (3.2%), ***other hallucinogens*** (1.7%), ***crack*** (1.6%), ***other cocaine*** (2.4%), ***heroin*** (1.4%), and ***steroids*** (1.7% overall, and 2.6% among males.)

- The very large numbers who have already begun use of the so-called "gateway drugs" (tobacco, alcohol, inhalants, and marijuana) suggests that a substantial number of eighth grade students are already at risk of proceeding further along the fairly orderly progression of involvement.

SUMMARY AND CONCLUSIONS

To summarize the findings on trends, over the last decade or so there have been appreciable declines in the use of a number of the ***illicit drugs*** among seniors, and even larger declines in their use among American college students and young adults more generally. However, as we have previously warned, the stall in these favorable trends in all three populations in 1985, as well as an increase in active ***cocaine*** use that year, should have served as a reminder that these improvements are not inevitable and cannot be taken for granted.

While the general decline resumed in 1986 and, most importantly, was joined by the start of a decline in ***cocaine*** use in 1987 and ***crack*** use in 1988, in 1992 a number of alarm bells are sounding. Although the seniors continued to show improvement on a number of measures in 1992, the college students and young adults did not. Perhaps of greater importance, the eighth graders exhibited a significant increase in ***marijuana, cocaine, LSD***, and ***hallucinogens other than LSD***, as well as a not-quite significant increase in ***inhalant*** use. (In fact, all five populations showed some increase on ***LSD***, continuing a longer term trend for college students and young adults.)

As this study has demonstrated over the years, changes in perceived risk and disapproval have been important causes of the downturns which have occurred in the use of a number of drugs. These beliefs and attitudes surely are in turn influenced by the amount and nature of the public attention being paid to the drug issue. The fact that this attention has declined so substantially in the past couple of years may help to explain why there seems to be little

further change in perceived risk and disapproval among the seniors, and some clear backsliding among the eighth graders. (There is even some backsliding among the seniors.)

Of particular concern here is not only the possibility that there may be an increase in the use of particular drugs like LSD and inhalants, but that we may be seeing the beginning of a turnaround in the drug abuse situation more generally among our youngest cohorts–perhaps because they have not had the same opportunities for vicarious learning from the adverse drug experiences of people around them and people children learn about through the media. Clearly there is a danger that "generational forgetting" is beginning to occur–that as the drug epidemic subsides, newer cohorts are experiencing fewer opportunities to learn informally about the dangers of drugs. This may mean that the nation must redouble its efforts to be sure that they learn these lessons through more formal means–from schools, parents, and focused messages in the media, for example–and that this more formalized prevention effort become institutionalized so that it will endure for the long term in order to reach replacement cohorts and generations.

Lest there be any doubt that plenty of problems still remain, even without any general resurgence of drug use among the youngest cohorts, the following facts should be noted:

- By their late twenties, over 75% of America's young adults today have tried an ***illicit drug***, including over 50% who have tried some ***illicit drug other than*** (usually in addition to) ***marijuana***. Even for high school seniors these proportions still stand at 41% and 25%, respectively.

- By age 27, over 30% of young Americans have tried ***cocaine***; and as early as the senior year of high school 6% have done so. Roughly one in every forty seniors (2.6%) have tried the particularly dangerous form of cocaine called ***crack***: in the young adult sample one in twenty (5.1%) have tried it.

- Some 1.9% of high school seniors in 1992 smoke ***marijuana daily***, as do slightly more young adults aged 19 to 28 (2.3%). Among seniors in 1992, 8.4% had been daily marijuana smokers at some time for at least a month, and among young adults the comparable figure is 15%.

- Some 28% of seniors have had ***five or more drinks in a row*** at least once in the prior two weeks, and such behavior tends to increase among young adults one to four years past high school. The prevalence of such behavior among male college students reaches 51%.

- Some 28% of seniors are current ***cigarette*** smokers and 17% already are current daily smokers. In addition, many of the lighter smokers will convert to heavy smoking after high school. For example, more than one in every five of the young adult sample aged 19 to 28 is a daily smoker (21%).

Thus, despite the improvements in recent years, it is still true that this nation's secondary school students and young adults show a level of involvement with illicit drugs which is greater than has been documented in any other industrialized nation in the world. Even by longer-term historical standards in this country, these rates remain extremely high. Heavy drinking also remains widespread and troublesome; and certainly the continuing initiation of large proportions of America's young people to cigarette smoking is a matter of the greatest public health concern.

Finally, we note the seemingly unending capacity of pharmacological experts and amateurs to discover new substances with abuse potential that can be used to alter mood and consciousness, as well the potential for our young people to "discover" the abuse potential of existing products, like Robitussin™, and to "rediscover" older drugs, such as LSD. While as a society we have made significant progress on a number of fronts in the fight against drug abuse, we must continually be preparing for, and remaining vigilant against, the opening of new fronts, as well as the reemergence of trouble on older ones.

Unlike youth in the 1950s and early 1960s, today's young people are aware of a wide range of substances they can use to alter mood and consciousness, and they will continue to have access through highly elaborated supply systems. This means that active counterforces must be in place to prevent the burgeoning of any new epidemics, as well as to continue to reduce levels of use in the current one.

TABLE 1

Trends in Prevalence of Various Drugs for Five Populations: 8th, 10th, 12th Graders, College Students, and Young Adults (Ages 19–28)

	Lifetime			Annual			30-Day			Daily		
	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change
Any Illicit Drug[a]												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	44.1	40.7	–3.4ss	29.4	27.1	–2.3ss	16.4	14.4	–2.0ss	—	—	—
College Students	50.4	48.8	–1.7	29.2	30.6	+1.3	15.2	16.1	+0.9	—	—	—
Young Adults	62.2	60.2	–2.1s	27.0	28.3	+1.3	15.1	14.8	–0.2	—	—	—
Any Illicit Drug[b] Other Than Marijuana												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	26.9	25.1	–1.8s	16.2	14.9	–1.3	7.1	6.3	–0.8	—	—	—
College Students	25.8	26.1	+0.3	13.2	13.1	–0.1	4.3	4.6	+0.3	—	—	—
Young Adults	37.8	37.0	–0.8	14.3	14.1	–0.2	5.4	5.5	+0.1	—	—	—
Marijuana/Hashish												
8th Grade	10.2	11.2	+1.0s	6.2	7.2	+1.0s	3.2	3.7	+0.5	0.2	0.2	0.0
10th Grade	23.4	21.4	–2.0	16.5	15.2	–1.3	8.7	8.1	–0.6	0.8	0.8	0.0
12th Grade	36.7	32.6	–4.1sss	23.9	21.9	–2.0s	13.8	11.9	–1.9s	2.0	1.9	–0.1
College Students	46.3	44.1	–2.2	26.5	27.7	+1.2	14.1	14.6	+0.6	1.8	1.6	–0.2
Young Adults	58.6	56.4	–2.2s	23.8	25.2	+1.4	13.5	13.3	–0.2	2.3	2.3	0.0
Inhalants[c,d]												
8th Grade	17.6	17.4	–0.2	9.0	9.5	+0.5	4.4	4.7	+0.3	0.2	0.3	+0.1
10th Grade	15.7	16.6	+0.9	7.1	7.5	+0.4	2.7	2.7	0.0	0.1	0.1	0.0
12th Grade	17.6	16.6	–1.0	6.6	6.2	–0.4	2.4	2.3	–0.1	0.2	0.1	–0.1
College Students	14.4	14.2	–0.1	3.5	3.1	–0.4	0.9	1.1	+0.2	—	—	—
Young Adults	14.1	13.9	–0.2	2.2	1.9	–0.3	0.6	0.7	+0.1	*	*	0.0
Hallucinogens[b,d]												
8th Grade	3.2	3.8	+0.6s	1.9	2.5	+0.6ss	0.8	1.1	+0.3s	0.1	0.1	0.0
10th Grade	6.1	6.4	+0.3	4.0	4.3	+0.3	1.6	1.8	+0.2	*	0.1	+0.1
12th Grade	9.6	9.2	–0.4	5.8	5.9	+0.1	2.2	2.1	–0.1	0.1	0.1	0.0
College Students	11.3	12.0	+0.7	6.3	6.8	+0.5	1.2	2.3	+1.1s	—	—	—
Young Adults	16.0	15.9	–0.1	4.6	5.1	+0.5	1.2	1.6	+0.4	0.0	0.0	0.0
LSD												
8th Grade	2.7	3.2	+0.5s	1.7	2.1	+0.4s	0.6	0.9	+0.3s	*	*	0.0
10th Grade	5.6	5.8	+0.2	3.7	4.0	+0.3	1.5	1.6	+0.1	*	0.1	+0.1
12th Grade	8.8	8.6	–0.2	5.2	5.6	+0.4	1.9	2.0	+0.1	0.1	0.1	0.0
College Students	9.6	10.6	+1.0	5.1	5.7	+0.6	0.8	1.8	+1.0s	—	—	—
Young Adults	13.5	13.8	+0.3	3.8	4.3	+0.5	0.8	1.1	+0.3	0.0	0.0	0.0
PCP[e]												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	2.9	2.4	–0.5	1.4	1.4	0.0	0.5	0.6	+0.1	0.1	0.1	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	3.1	2.0	–1.2	0.3	0.3	0.0	0.1	0.2	0.0	*	0.0	0.0
Hallucinogens Other than LSD												
8th Grade	1.4	1.7	+0.3	0.7	1.1	+0.4ss	0.3	0.4	+0.1	*	*	0.0
10th Grade	2.2	2.5	+0.3	1.3	1.4	+0.1	0.4	0.5	+0.1	*	*	0.0
12th Grade	3.7	3.3	–0.4	2.0	1.7	–0.3	0.7	0.5	–0.2	*	*	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
Ecstasy[f]												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—
College Students	2.0	2.9	+0.9	0.9	2.0	+1.1	0.2	0.4	+0.2	—	—	—
Young Adults	3.2	3.9	+0.7	0.8	1.0	+0.3	0.1	0.3	+0.1	0.0	0.0	0.0

(Table continued on next page)

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TABLE 1 (continued)

Trends in Prevalence of Various Drugs for Five Populations: 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

	Lifetime			Annual			30-Day			Daily		
	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change
Cocaine												
8th Grade	2.3	2.9	+0.6s	1.1	1.5	+0.4s	0.5	0.7	+0.2	0.1	*	0.0
10th Grade	4.1	3.3	−0.8s	2.2	1.9	−0.3	0.7	0.7	0.0	0.1	*	0.0
12th Grade	7.8	6.1	−1.7ss	3.5	3.1	−0.4	1.4	1.3	−0.1	0.1	0.1	0.0
College Students	9.4	7.9	−1.5	3.6	3.0	−0.6	1.0	1.0	−0.1	*	0.0	0.0
Young Adults	21.0	19.5	−1.4s	6.2	5.7	−0.5	2.0	1.8	−0.2	0.1	*	0.0
Crack												
8th Grade	1.3	1.6	+0.3	0.7	0.9	+0.2	0.3	0.5	+0.2s	*	*	0.0
10th Grade	1.7	1.5	−0.2	0.9	0.9	0.0	0.3	0.4	+0.1	*	*	0.0
12th Grade	3.1	2.6	−0.5	1.5	1.5	0.0	0.7	0.6	−0.1	0.1	0.1	0.0
College Students	1.5	1.7	+0.2	0.5	0.4	−0.1	0.3	0.1	−0.2	—	—	—
Young Adults	4.8	5.1	+0.3	1.2	1.4	+0.2	0.4	0.4	0.0	*	*	0.0
Other Cocaine[g]												
8th Grade	2.0	2.4	+0.4	1.0	1.2	+0.2	0.5	0.5	0.0	*	*	0.0
10th Grade	3.8	3.0	−0.8ss	2.1	1.7	−0.4	0.6	0.6	0.0	*	*	0.0
12th Grade	7.0	5.3	−1.7sss	3.2	2.6	−0.6s	1.2	1.0	−0.2	0.1	*	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	19.8	18.4	−1.4	5.4	5.1	−0.4	1.8	1.7	−0.1	0.1	*	0.0
Heroin												
8th Grade	1.2	1.4	+0.2	0.7	0.7	0.0	0.3	0.4	+0.1	*	*	0.0
10th Grade	1.2	1.2	0.0	0.5	0.6	+0.1	0.2	0.2	0.0	*	*	0.0
12th Grade	0.9	1.2	+0.3	0.4	0.6	+0.2	0.2	0.3	+0.1	*	*	0.0
College Students	0.5	0.5	0.0	0.1	0.1	0.0	0.1	0.0	−0.1	—	—	—
Young Adults	0.9	0.9	0.0	0.1	0.2	0.0	*	0.1	0.0	0.0	*	0.0
Ice[f]												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.3	2.9	−0.4	1.4	1.3	−0.1	0.6	0.5	−0.1	0.1	0.1	+0.1
College Students	1.3	0.6	−0.7	0.1	0.2	0.0	0.0	0.0	0.0	—	—	—
Young Adults	2.9	2.2	−0.7	0.3	0.4	+0.1	*	0.1	+0.1	0.0	0.0	0.0
Other Opiates												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.6	6.1	−0.5	3.5	3.3	−0.2	1.1	1.2	+0.1	0.1	*	0.0
College Students	7.3	7.3	0.0	2.7	2.7	+0.1	0.6	1.0	+0.4	—	—	—
Young Adults	9.3	8.9	−0.4	2.5	2.5	0.0	0.6	0.7	+0.1	*	*	0.0
Stimulants												
8th Grade	10.5	10.8	+0.3	6.2	6.5	+0.3	2.6	3.3	+0.7s	0.1	0.1	+0.1
10th Grade	13.2	13.1	−0.1	8.2	8.2	0.0	3.3	3.6	+0.3	0.1	0.1	0.0
12th Grade	15.4	13.9	−1.5s	8.2	7.1	−1.1s	3.2	2.8	−0.4	0.2	0.2	0.0
College Students	13.0	10.5	−2.5s	3.9	3.6	−0.2	1.0	1.1	+0.1	0.1	0.0	−0.1
Young Adults	22.4	20.2	−2.1ss	4.3	4.1	−0.1	1.5	1.5	0.0	0.1	0.1	0.0
Tranquilizers												
8th Grade	3.8	4.1	+0.3	1.8	2.0	+0.2	0.8	0.8	0.0	*	*	0.0
10th Grade	5.8	5.9	+0.1	3.2	3.5	+0.3	1.2	1.5	+0.3	*	*	0.0
12th Grade	7.2	6.0	−1.2s	3.6	2.8	−0.8s	1.4	1.0	−0.4s	0.1	*	−0.1
College Students	6.8	6.9	+0.1	2.4	2.9	+0.4	0.6	0.6	0.0	—	—	—
Young Adults	11.8	11.3	−0.5	3.5	3.4	−0.1	0.9	1.0	+0.1	0.0	*	0.0
Nitrites[e]												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	−0.1	0.9	0.5	−0.4	0.4	0.3	−0.1	0.2	0.1	−0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.4	1.2	−0.2	0.2	0.1	−0.1	*	0.1	0.0	*	0.0	0.0
Barbiturates												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.2	5.5	−0.7	3.4	2.8	−0.6	1.4	1.1	−0.3	0.1	*	0.0
College Students	3.5	3.8	+0.3	1.2	1.4	+0.2	0.3	0.7	+0.3	—	—	—
Young Adults	8.2	7.4	−0.8	1.8	1.6	−0.2	0.5	0.5	0.0	0.0	*	0.0

(Table continued on next page)

TABLE 1 (continued)

Trends in Prevalence of Various Drugs for Five Populations: 8th, 10th, 12th Graders, College Students, and Young Adults (Ages 19–28)

	Lifetime			Annual			30-Day			Daily		
	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change
Alcohol												
Any use												
8th Grade	70.1	69.3	–0.8	54.0	53.7	–0.3	25.1	26.1	+1.0	0.5	0.6	+0.1
10th Grade	83.8	82.3	–1.5	72.3	70.2	–2.1s	42.8	39.9	–2.9ss	1.3	1.2	–0.1
12th Grade	88.0	87.5	–0.5	77.7	76.8	–0.9	54.0	51.3	–2.7s	3.6	3.4	–0.2
College Students	93.6	91.8	–1.8	88.3	86.9	–1.4	74.7	71.4	–3.3s	4.1	3.7	–0.4
Young Adults	94.1	93.4	–0.6	86.9	86.2	–0.8	70.6	69.0	–1.6s	4.9	4.5	–0.4
Been Drunk[f]												
8th Grade	26.7	26.8	+0.1	17.5	18.3	+0.8	7.6	7.5	–0.1	0.1	0.1	0.0
10th Grade	50.0	47.7	–2.3s	40.1	37.0	–3.1sss	20.5	18.1	–2.4ss	0.2	0.3	+0.1
12th Grade	65.4	63.4	–2.0	52.7	50.3	–2.4	31.6	29.9	–1.7	0.9	0.8	–0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
5+ drinks in last 2 weeks												
8th Grade	—	—	—	—	—	—	—	—	—	12.9	13.4	+0.5
10th Grade	—	—	—	—	—	—	—	—	—	22.9	21.1	–1.8
12th Grade	—	—	—	—	—	—	—	—	—	29.8	27.9	–1.9
College Students	—	—	—	—	—	—	—	—	—	42.8	41.4	–1.4
Young Adults	—	—	—	—	—	—	—	—	—	34.7	34.2	–0.5
Cigarettes												
Any use												
8th Grade	44.0	45.2	+1.2	—	—	—	14.3	15.5	+1.2	7.2	7.0	–0.2
10th Grade	55.1	53.5	–1.6	—	—	—	20.8	21.5	+0.7	12.6	12.3	–0.3
12th Grade	63.1	61.8	–1.3	—	—	—	28.3	27.8	–0.5	18.5	17.2	–1.3
College Students	—	—	—	35.6	37.3	+1.7	23.2	23.5	+0.3	13.8	14.1	+0.2
Young Adults	—	—	—	37.7	37.9	+0.2	28.2	28.3	+0.1	21.7	20.9	–0.8
1/2pack+/day												
8th Grade	—	—	—	—	—	—	—	—	—	3.1	2.9	–0.2
10th Grade	—	—	—	—	—	—	—	—	—	6.5	6.0	–0.5
12th Grade	—	—	—	—	—	—	—	—	—	10.7	10.0	–0.7
College Students	—	—	—	—	—	—	—	—	—	8.0	8.9	+0.9
Young Adults	—	—	—	—	—	—	—	—	—	16.0	15.7	–0.3
Smokeless Tobacco[h]												
8th Grade	22.2	20.7	–1.5	—	—	—	6.9	7.0	+0.1	1.6	1.8	+0.2
10th Grade	28.2	26.6	–1.6	—	—	—	10.0	9.6	–0.4	3.3	3.0	–0.3
12th Grade	—	32.4	—	—	—	—	—	11.4	—	—	4.3	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[f]												
8th Grade	1.9	1.7	–0.2	1.0	1.1	+0.1	0.4	0.5	+0.1	*	*	0.0
10th Grade	1.8	1.7	–0.1	1.1	1.1	0.0	0.6	0.6	0.0	0.1	*	0.0
12th Grade	2.1	2.1	0.0	1.4	1.1	–0.3	0.8	0.6	–0.2	0.1	0.1	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.7	1.9	+0.2	0.5	0.4	–0.1	0.2	0.1	–0.1	0.0	0.1	+0.1

NOTE: Level of significance of difference between the two years: s=.05, ss=.01, sss=.001. '—' indicates data not available. '*' indicates less than .05 percent. Any apparent inconsistency between the change estimate and the prevalence estimates for the two years is due to rounding error.

Approx. N: 8th Grade = 17,500 in 1991; 18,600 in 1992
10th Grade = 14,800 in 1991; 14,800 in 1992
12th Grade = 15,000 in 1991; 15,800 in 1992
College Students = 1410 in 1991; 1490 in 1992
Young Adults = 6600 in 1991; 6800 in 1992

Footnotes for Table 1

Note: The young adult sample described in this table is comprised of seniors from the preceding ten classes, i.e. 19-28 year olds who are high school graduates.

[a] Use of "any illicit drugs" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.

[b] Use of "other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.

[c] Data based on five questionnaire forms in 1991-1992; N is five-sixths of N indicated.

[d] Unadjusted for underreporting of amyl and butyl nitrites.

[e] 12th grade only: Data based on a single questionnaire form; N is one-sixth of N indicated in 1991-1992.

[f] 12th grade only: This drug was asked about in two of the six questionnaire forms. N is one-third of N indicated.

[g] 12th grade only: Data based on four questionnaire forms in 1990-1992; N is four-sixths of N indicated.

[h] Data based on one questionaire form. For 12th graders, N is one-sixth of N indicated. For 8th and 10th graders, N is one-half of N indicated.

Chapter 3

STUDY DESIGN AND PROCEDURES

This chapter presents the research design, sampling plans, and field procedures used in both the in-school surveys of the eighth, tenth, and twelfth grade students, and the follow-up surveys of young adults. Related methodological issues such as response rates, population coverage, and the validity of the measures will also be discussed. We begin with a description of the design which has been used consistently over 18 years to survey high school seniors; then the much more recently instituted design for eighth and tenth graders is described. Finally, the designs for the follow-up surveys of former twelfth graders, and former eighth and tenth graders, are covered.

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF SENIORS

The data from high school seniors are collected during the spring of each year; data collection began with the class of 1975. Each year's data collection takes place in approximately 125 to 140 public and private high schools selected to provide an accurate representative cross-section of high school seniors throughout the coterminous United States (see Figure 1).

The population under study. There are several reasons for choosing the senior year of high school as an optimal point for monitoring the drug use and related attitudes of youth. First, the completion of high school represents the end of an important developmental stage in this society, since it demarcates both the end of universal public education and, for many, the end of living in the parental home. Therefore, it is a logical point at which to take stock of the cumulated influences of these two environments on American youth. Further, the completion of high school represents the jumping-off point from which young people diverge into widely differing social environments and experiences. Finally, there are some important practical advantages to building a system of data collections around samples of high school seniors. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable stress be laid on cost efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

The omission of dropouts. One limitation in the design to date has been that it does not include in the target population those young men and women who drop out of high school before graduation–between 15 and 20 percent of each age cohort nationally, according to U.S. Census statistics. The omission of high school dropouts does introduce biases in the estimation of certain characteristics of the entire age group; however, for most purposes, the small proportion of dropouts sets outer limits on the bias. Further, since the bias from missing dropouts should remain just about constant from year to year, their omission should introduce little or no bias in *change* estimates. Indeed, we believe the changes observed over time for those who finish high school are likely to parallel the changes for dropouts in most instances. Appendix 1 addresses the likely effects of the exclusion of dropouts on estimates of prevalence of drug use and trends in drug use among the entire age cohort; the reader is referred to it for a more detailed discussion of this issue. In the future, as the eighth

FIGURE 1

Counties Included in One Year's Data Collection

NOTE: Counties may contain multiple schools and up to three grade levels each.

and tenth grade follow-up surveys actually gather data from prospectively defined panels of dropouts, we hope to be able to make direct estimates of the extent to which their omission from the senior samples causes an underestimate for the age group as a whole.

Sampling procedures. A multi-stage random sampling procedure is used for securing the nationwide sample of high school seniors each year. Stage 1 is the selection of particular geographic areas, Stage 2 the selection (with probability proportionate to size) of one or more high schools in each area, and Stage 3 the selection of seniors within each high school. This three-stage sampling procedure has yielded the numbers of participating schools and students over the years shown in Table 2. Sample weights are then used in all analyses, which adjust for any differential selection probabilities that may have occurred at any stage.

Questionnaire administration. About ten days before the spring administration, the seniors are given flyers explaining the study. The actual questionnaire administrations are conducted by the local Institute for Social Research representatives and their assistants, following standardized procedures detailed in a project instruction manual. The questionnaires are administered in classrooms during a normal class period whenever possible; however, circumstances in some schools require the use of larger group administrations.

Questionnaire format. Because many questions are needed to cover all of the topic areas in the study, much of the questionnaire content intended for seniors is divided into six different questionnaire forms which are distributed to participants in an ordered sequence that ensures six virtually identical subsamples. (Five questionnaire forms were used between 1975 and 1988.) About one-third of each questionnaire form consists of key or "core" variables which are common to all forms. All demographic variables, and nearly all of the drug *use* variables included in this report, are included in this core set of measures. Many of the questions dealing with attitudes, beliefs, and perceptions of relevant features of the social environment are contained in only a single form, however, and are thus based on one-sixth as many cases (i.e., approximately 2,600 respondents in 1992) or one-fifth as many cases in 1975-1988 (e.g., approximately 3,300 respondents in 1988). All tables in this report give the sample sizes upon which the statistics are based, stated in terms of weighted numbers of cases (which are roughly equivalent to the actual numbers of cases).

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF LOWER GRADES

Beginning in 1991 the study was expanded to include nationally representative samples of eighth and tenth grade students. Our intention was to conduct similar surveys on an annual basis and to conduct follow-up surveys of representative sub-samples from each year's sample. The first such follow-ups will be implemented in 1993.

In general, the procedures used for the annual surveys of eighth and tenth grade students closely parallel those used for high school seniors, including the procedures for selecting schools and students, questionnaire administrations, and questionnaire formats. A major exception is that only two different questionnaire forms are used, rather than the six used with seniors. Identical forms are used for both eighth and tenth grades, and, for the most part, questionnaire content is drawn from the twelfth grade questionnaires. Thus,

TABLE 2

Sample Sizes and Response Rates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
										Twelfth Grade								
Number public schools	111	108	108	111	111	107	109	116	112	117	115	113	117	113	111	114	117	120
Number private schools	14	15	16	20	20	20	19	21	22	17	17	16	18	19	22	23	19	18
Total number schools	125	123	124	131	131	127	128	137	134	134	132	129	135	132	133	137	136	138
Total number students	15,791	16,678	18,436	18,924	16,662	16,524	18,267	18,348	16,947	16,499	16,502	15,713	16,843	16,795	17,142	15,676	15,483	16,251
Student response rate	78%	77%	79%	83%	82%	82%	81%	83%	84%	83%	84%	83%	84%	83%	86%	86%	83%	84%
										Tenth Grade								
Number public schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	107	106
Number private schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	19
Total number schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	125
Total number students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14,996	14,997
Student response rate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87%	88%
										Eighth Grade								
Number public schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	131	133
Number private schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	26
Total number schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	162	159
Total number students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17,844	19,015
Student response rate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90%	90%

key demographic variables and measures of drug use and related attitudes and beliefs are generally identical for all three grades. The two forms used in both eighth and tenth grades have a common core (Parts B and C) that parallels the core used in twelfth grade, and each form has somewhat different questions in Parts A and D. Many fewer questions about lifestyles and values are included in these forms than in the twelfth grade forms, in part because we think that many of these attitudes are more likely to be formed by twelfth grade, and therefore are best monitored there. For the national survey of eighth graders, approximately 160 schools are sampled, and approximately 18,000 to 19,000 students are surveyed. For the tenth graders, approximately 125 schools are sampled, and approximately 15,000 students are surveyed.

Our intention is to conduct follow-up surveys at two-year intervals of subsamples of the eighth and tenth graders participating in the study, much as is done with senior follow-up samples. The first such follow-up would be implemented in 1993. This plan has influenced the design of the cross-sectional studies of eighth and tenth graders in two important ways. First, in order to "capture" many of the eighth grade participants two years later in the normal tenth grade cross-sectional study for that year, we select the eighth grade schools by first drawing a sample of high schools and then selecting a sample of their feeder schools which contain eighth graders. This extra stage in the sampling process means that many of the eighth grade participants in, say, the 1991 cross-sectional survey will also be participants in the 1993 cross-sectional survey of tenth graders. Thus, a fair amount of panel data will have been generated with no additional cost.

RESEARCH DESIGN AND PROCEDURES FOR THE FOLLOW-UP SURVEYS OF SENIORS

Beginning with the graduating class of 1976, each senior class is followed up annually after high school on a continuing basis. From the roughly 15,000 to 17,000 seniors originally participating in a given class, a representative sample of 2,400 individuals is chosen for follow-up. In order to ensure sufficient numbers of drug users in the follow-up surveys, those fitting certain criteria of current drug use (that is, those reporting 20 or more uses of marijuana, or any use of any of the other illicit drugs, in the previous 30 days) are selected with higher probability (by a factor of 3.0) than the remaining seniors. Differential weighting is then used in all follow-up analyses to compensate for the differential sampling probabilities. Because those in the drug-using stratum receive a weight of only .33 in the calculation of all statistics to compensate for their overrepresentation, the actual numbers of follow-up cases are somewhat larger than the weighted numbers reported in the tables.

The 2,400 selected respondents from each class are randomly assigned to one of two matching groups of 1,200 each; one group is surveyed on even-numbered calendar years, while the other group is surveyed on odd-numbered years. This two-year cycle is intended to reduce respondent burden, and thus yield a better retention rate across years.

Follow-up procedures. Using information provided by respondents at the time of the senior survey (name, address, phone number, and the name and address of someone who would always know how to reach them), mail contacts are maintained with those selected for inclusion in the follow-up panels. Newsletters are sent each year, and name and address

corrections are requested. The questionnaires are sent by certified mail in the spring of each year. A check for $5.00, made payable to the respondent, is attached to the front of each questionnaire. Reminder letters and postcards go out at fixed intervals thereafter; finally, those not responding receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor. If requested, a second copy of the questionnaire is sent; but no questionnaire content is administered by phone.

Panel retention rates. To date the panel retention rates have remained quite high. In the first follow-up after high school, about 80% of the original panel have returned questionnaires. The retention rate reduces with time, as would be expected. The 1992 panel retention from the class of 1978–the oldest of the panels, now aged 32 (14 years past high school)–still remains at 66%.

Corrections for panel attrition. Since, to a modest degree, attrition is associated with drug use, we have introduced corrections into the prevalence estimates presented here for the follow-up panels. These raise the prevalence estimates from what they would be uncorrected, but only slightly. We believe the resulting estimates to be the most accurate obtainable for the population of high school senior graduates but still low for the age group as a whole, due to the omission of dropouts and absentees from the population covered by the original panels.[4]

REPRESENTATIVENESS AND VALIDITY

School participation. Schools are invited to participate in the study for a two-year period. With very few exceptions, each school from the original sample participating in the first year has agreed to participate for the second. Each year thus far, from 58% to 80% of the high schools invited to participate initially have agreed to do so; for each school refusal, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement.[5] The

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[4]The intent of the weighting process is to correct for the effects of differential attrition on follow-up drug use estimates. Different weights are used for different substances. Cigarettes, alcohol, and marijuana each have one weight for every follow-up of each graduating class. The weights are based on the observed differences in the distribution on an index of use of the relevant substance based on the follow-up sample compared to the distribution based on the full base-year sample. For example, the distribution on the index of marijuana use in the 1988 follow-up of approximately 1,000 respondents from the class of 1976 was compared to the original 1976 base-year distribution for the entire participating base-year class of 17,000 respondents; and weights were derived which, when applied to the base-year data for only those participating in the 1988 follow-up, would reproduce the original base-year frequency distribution. A similar procedure is used to determine a weight for all illicits other than marijuana combined. In this case, however, an average weight is derived across graduating classes. Thus, the same weight is applied, for example, to all respondents in the follow-up of 1988, regardless of when they graduated from high school. These weights are then used in the calculation of all prevalence rates based on the follow-up panels.

[5] Response rates for the junior high and middle schools which produce the eighth grade samples are a little more complicated to calculate. Calculation of the response rates for Monitoring the Future eighth grade schools for 1991 and 1992 is complicated by the fact that they are sampled by "network" (or cluster), based on the high school into which they feed. We first draw a representative sample of tenth grade schools, then sample eighth grade schools from the set of feeder schools to each high school. If there are more than two eighth grade schools feeding into a selected high school, we sample two schools. If either of those schools declines, we replace that school with another school in the same network of feeder schools. If no school in the network agrees to participate, then we count that as a refusal; if only one school in a network agrees to participate, but fails to meet a minimum size criterion of approximately one-third of combined enrollment of the chosen schools, that is also counted as a refusal. If only one of the schools agrees to participate, and that one represents at least one-third the combined enrollment of the chosen schools, then we accept that school, and reweight appropriately. Many networks, of course, have only one feeder eighth grade school in the network, in which case, a school refusal is equivalent to a network refusal. Response rates for the

selection of replacement schools almost entirely removes problems of bias in region, urbanicity, and the like, that might result from certain schools refusing to participate. Other potential biases could be more subtle, however. If, for example, it turned out that most schools with "drug problems" refused to participate, that would seriously bias the sample. And if any other single factor were dominant in most refusals, that also might suggest a source of serious bias. In fact, however, the reasons for a school refusing to participate are varied and are often a function of happenstance events specific to that particular year; only a very small proportion specifically object to the drug content of the survey. Thus we feel quite confident that school refusals have not seriously biased the surveys.

Schools are selected in such a way that half of each year's sample in each grade level is comprised of schools which participated the previous year, and half is comprised of schools which will participate the next year. This staggered half-sample design is used to check on possible errors in the year-to-year trend estimates due to school turnover. For example, separate sets of one-year trend estimates are computed for seniors using first that half-sample of schools which participated in both 1975 *and* 1976, then the half-sample which participated in both 1976 *and* 1977, and so on. Thus, each one-year trend estimate derived in this way is based on a constant set of at least 62 schools. When the resulting trend data (examined separately for each class of drugs) are compared with trends based on the total samples of schools, the results are highly similar, indicating that the trend estimates are little affected by turnover or shifting refusal rates in the school samples. The absolute prevalence estimates for a given year are not as accurate using just the half-sample, however.

Student participation. Completed questionnaires have been obtained from 77% to 86% of all sampled seniors in participating schools each year (see Table 1). Student participation rates for eighth and tenth grades are somewhat higher (90% and 88%, respectively, in 1992). The single most important reason that students are missed is absence from class at the time of data collection; in most cases, it is not workable to schedule a special follow-up data collection for absent students. Students with fairly high rates of absenteeism also report above-average rates of drug use; therefore, there is some degree of bias introduced into the prevalence estimates by missing the absentees. Much of that bias could be corrected through the use of special weighting; however, we decided not to use such a weighting procedure because the bias in overall drug use estimates was determined to be quite small, and because the necessary weighting procedures would have introduced greater variance in the estimates. Appendix A of one of our earlier reports[6] provides a discussion of this point and Appendix I to the present report shows trend and prevalence estimates which would result with corrections for absentees included.

Of course, some students are not absent from class, but simply refuse when asked to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1% of the target sample.

Sampling accuracy of the estimates. For purposes of this introduction, it is sufficient to note that drug use estimates based on the total sample of seniors each year have confidence

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1991 and 1992 eighth grade by network are: 74% and 69%, respectively.

[6]Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975-1983.* DHHS (ADM) 85-1374. Washington, D.C.: U.S. Government Printing Office.

intervals that average about ±1%. (As shown in Table 3 in Chapter 4, confidence intervals for seniors vary from ±2.6% to smaller than ±0.3%, depending on the drug). This means that, had we been able to invite all schools and all seniors in the 48 coterminous states to participate, the results from such a massive survey should be within about one percentage point of our present findings for most drugs at least 95 times out of 100. We consider this to be a high level of sampling accuracy, and one that permits the detection of fairly small changes from one year to the next. Table 2 also presents the confidence intervals for tenth and eighth grade students, which are roughly the same as those observed for twelfth graders. Tenth grade confidence intervals vary from ±0.2% to ±2.5%, and for eighth grade, confidence intervals vary from ±0.3% to ±2.0%.

VALIDITY OF THE MEASURES OF SELF-REPORTED DRUG USE

The question always arises whether sensitive behaviors like drug use are honestly reported. Like most studies dealing with sensitive behaviors, we have no direct, totally objective validation of the present measures; however, the considerable amount of inferential evidence that exists strongly suggests that the self-report questions produce largely valid data. A more complete discussion of the contributing evidence which leads to this conclusion may be found in other publications; here we will only briefly summarize the evidence.[7]

First, using a three-wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability–a necessary condition for validity.[8] In essence, this means that respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of seniors reporting some illicit drug use by senior year has reached two-thirds of all respondents in peak years and nearly as high as 80% in some follow-up years, which constitutes *prima facie* evidence that the degree of underreporting must be very limited. Fourth, the seniors' reports of use by their unnamed friends–about which they would presumably have less reason to distort–has been highly consistent with self-reported use in the aggregate in terms of both prevalence and trends in prevalence, as will be discussed later in this report. Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations–in other words, there is strong evidence of "construct validity." Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of the instruction to respondents to leave blank those drug use questions they felt they could not answer honestly. And seventh, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.

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[7]Johnston, L.D., & O'Malley, P.M. (1985). Issues of validity and population coverage in student surveys of drug use. In B.A. Rouse, N.J. Kozel, & L.G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, D.C.: U.S. Government Printing Office; Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975-1983*. DHHS (ADM) 85-1374. Washington, D.C.: U.S. Government Printing Office.

[8]O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18*, 805-824.

This is not to argue that self-reported measures of drug use are valid in all cases. In the present study we have gone to great lengths to create a situation and set of procedures in which students feel that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. We think the evidence suggests that a high level of validity has been obtained. Nevertheless, insofar as there exists any remaining reporting bias, we believe it to be in the direction of underreporting. Thus, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

Consistency and the measurement of trends. One further point is worth noting in a discussion of the validity of the findings. The Monitoring the Future project is designed to be sensitive to changes from one time period to another. Accordingly, the measures and procedures have been standardized and applied consistently across each data collection. To the extent that any biases remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same way from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, which means that our measurement of *trends* should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

Chapter 4

PREVALENCE OF DRUG USE AMONG EIGHTH, TENTH, AND TWELFTH GRADE STUDENTS

This section summarizes the levels of drug use reported by the national samples of eighth, tenth, and twelfth grade students surveyed in 1992. Prevalence and frequency of use data are included for lifetime use, use in the past year, and use in the past month. The prevalence of current daily use also is provided. In addition, comparisons are given for key subgroups in the population based on sex, college plans, region of the country, population density (or urbanicity), socioeconomic status, and racial/ethnic identification.

It should be noted that all of the prevalence statistics given in this section are based on students in attendance on the day of the survey administration. Selected prevalence rate estimates reflecting adjustments for absentees, as well as for dropouts, may be found in Appendix I. They relate to twelfth grade statistics. (Twelfth graders had 16% missing from the 1992 administration.) The adjustments would be much smaller for eighth and tenth grades, since they have lower rates of absenteeism (10% and 12%, respectively) and much lower rates of dropping out.

PREVALENCE AND FREQUENCY OF DRUG USE IN 1992: ALL STUDENTS

Lifetime, Annual, and Monthly Prevalence and Frequency

Prevalence rates for all drugs at all three grade levels on lifetime, annual, past 30 days, and daily in past 30 days are provided in Table 4. Frequency of use for each drug within each prevalence period is provided in Table 5A; Figure 2 presents the drugs ranked by lifetime prevalence within each grade level. Table 3 provides the 95% confidence interval around the lifetime prevalence estimate for each drug.

- Less than half of all seniors (41%) report ***illicit drug use*** at some time in their lives.

- More than a third (38%) of those seniors reporting any illicit drug use have used ***only marijuana*** (16% of the sample). A quarter of all seniors (25%) report having used an ***illicit drug other than marijuana*** at some time.[9,10]

[9]Use of "other illicit drugs" includes any use of hallucinogens, cocaine, or heroin ***or*** any use of other opiates, stimulants, barbiturates, methaqualone (excluded in 1990-1992), or tranquilizers that are not under a doctor's orders.

[10]Indexes of any illicit drug use, or any illicit drug use other than marijuana, have not been calculated for eighth and tenth graders because usable data do not exist for certain component classes of drugs--in particular, sedatives and opiates other than heroin. Questions on these drugs were included in the questionnaires given to eighth and tenth graders, but the results lead us to believe that some respondents were including nonprescription drugs in their answers, resulting in exaggerated prevalence rates. Therefore the data are omitted for these two classes of drugs, and for the usage indexes that they would influence.

FIGURE 2

Prevalence and Recency of Use
Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1992

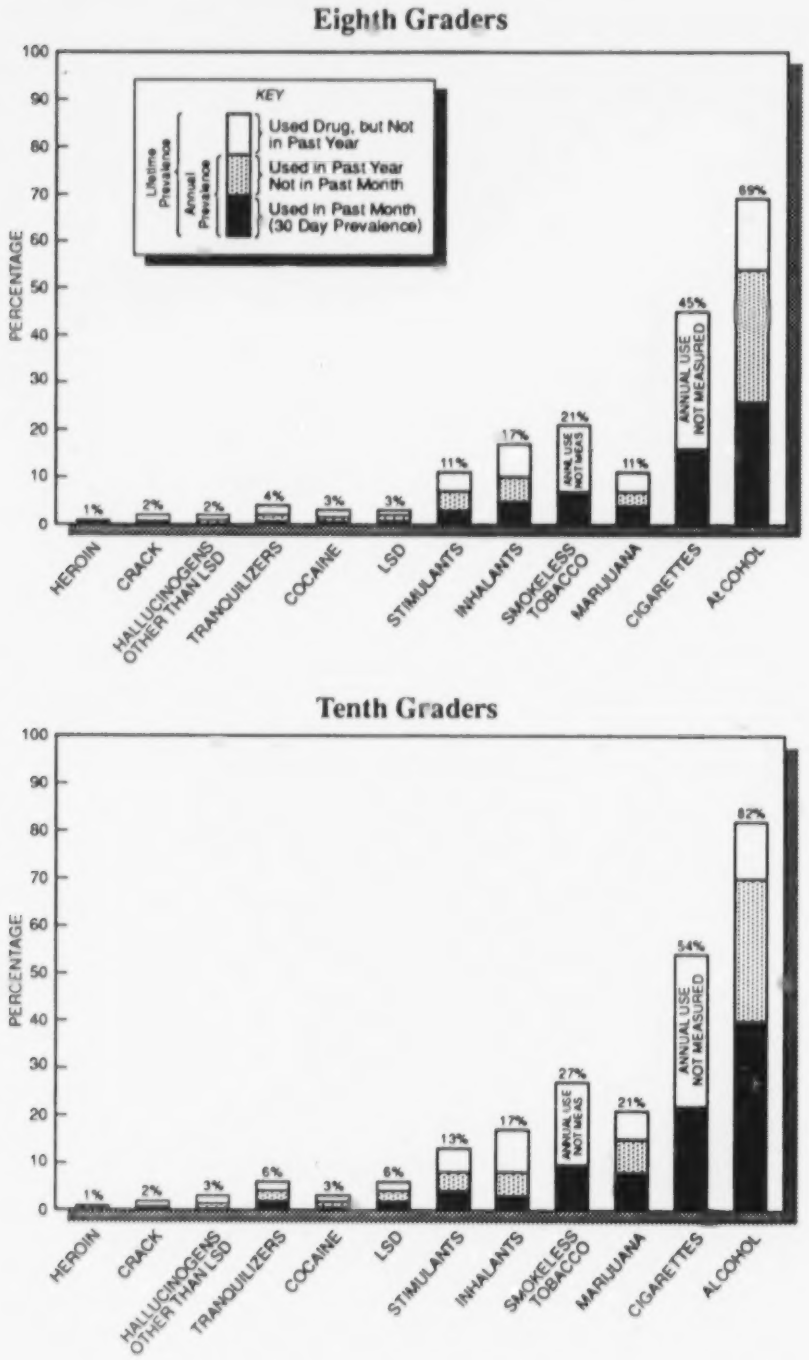

FIGURE 2 (cont.)

Prevalence and Recency of Use
Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1992

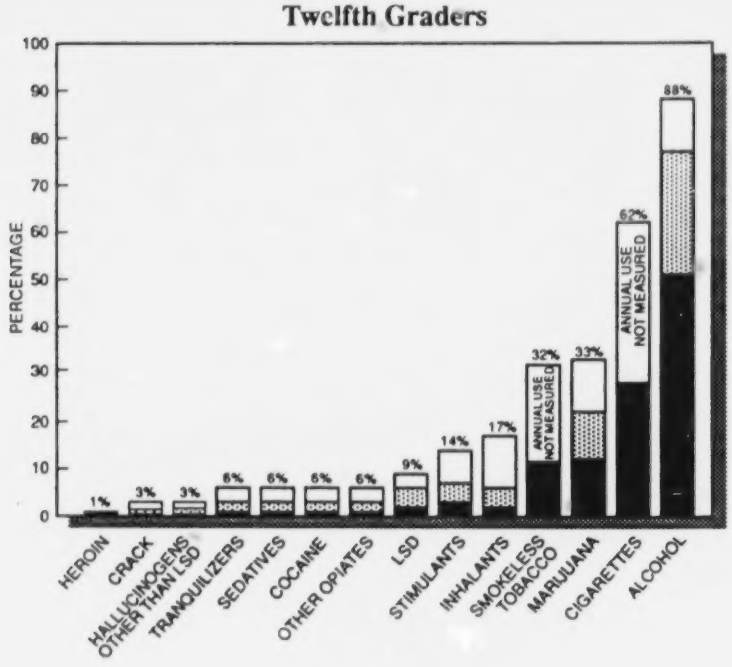

TABLE 3

Ninety-Five Percent Confidence Limits: Lifetime Prevalence Eighth, Tenth, and Twelfth Graders, 1992

(Approx. Ns: 8th grade = 18600, 10th grade = 14800, 12th grade = 15800)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Marijuana/Hashish	10.2	11.2	12.3	19.5	21.4	23.4	30.6	32.6	34.7
Inhalants[a]	16.2	17.4	18.7	15.4	16.6	17.9	15.5	16.6	17.7
Inhalants Adjusted[a,b]	—	—	—	—	—	—	15.7	17.0	18.4
Amyl & Butyl Nitrites[c]	—	—	—	—	—	—	1.0	1.5	2.3
Hallucinogens	3.2	3.8	4.5	5.5	6.4	7.5	8.2	9.2	10.3
Hallucinogens Adjusted[d]	—	—	—	—	—	—	8.5	9.4	10.4
LSD	2.7	3.2	3.8	4.9	5.8	6.8	7.6	8.6	9.7
PCP[c]	—	—	—	—	—	—	1.7	2.4	3.4
Cocaine	2.4	2.9	3.5	2.6	3.3	4.1	5.3	6.1	7.0
Crack	1.3	1.6	1.9	1.3	1.5	1.8	2.1	2.6	3.3
Other cocaine[e]	2.0	2.4	2.9	2.5	3.0	3.6	4.7	5.3	6.0
Heroin	1.1	1.4	1.8	0.8	1.2	1.7	0.9	1.2	1.5
Other opiates[f]	—	—	—	—	—	—	5.5	6.1	6.8
Stimulants[f]	9.8	10.8	11.8	11.8	13.1	14.5	12.7	13.9	15.2
Crystal Meth. (Ice)[g]	—	—	—	—	—	—	2.1	2.9	4.0
Sedatives[c,f]	—	—	—	—	—	—	5.3	6.1	7.0
Barbiturates[f]	—	—	—	—	—	—	4.7	5.5	6.4
Methaqualone[c,f]	—	—	—	—	—	—	1.0	1.6	2.4
Tranquilizers[f]	3.5	4.1	4.8	5.0	5.9	6.9	5.2	6.0	6.9
Alcohol	67.7	69.3	70.9	80.9	82.3	83.7	85.7	87.5	89.1
Been drunk[g]	25.3	26.8	28.4	45.8	47.7	49.6	60.8	63.4	65.9
Cigarettes	43.3	45.2	47.1	51.7	53.5	55.3	60.0	61.8	63.6
Smokeless Tobacco[c]	18.8	20.7	22.7	24.2	26.6	29.1	30.7	32.4	34.2
Steroids[g]	1.3	1.7	2.2	1.2	1.7	2.3	1.5	2.1	3.0

NOTES: '—' indicates data not available.

[a]12th grade only. Data based on five questionnaire forms. N is five-sixths of N indicated.

[b]Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c]Data based on a single questionnaire form. N is one-sixth of N indicated for 12th graders. N is one-half of N indicated for 8th and 10th graders.

[d]Adjusted for underreporting of PCP. See text for details.

[e]12th grade only. Data based on four questionnaire forms. N is four-sixths of N indicated.

[f]Only drug use which was not under a doctor's orders is included here.

[g]12th grade only. Data based on two questionnaire forms. N is two-sixths of N indicated.

TABLE 4

A Comparison of Drug Usage Rates Eighth, Tenth, and Twelfth Graders, 1992

	Lifetime			Annual			30-Day			Daily		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approx. N =	18600	14800	15800	18600	14800	15800	18600	14800	15800	18600	14800	15800
Marijuana/Hashish	11.2	21.4	32.6	7.2	15.2	21.9	3.7	8.1	11.9	0.2	0.8	1.9
Inhalants[a]	17.4	16.6	16.6	9.5	7.5	6.2	4.7	2.7	2.3	0.3	0.1	0.1
Inhalants, adj.[b]	—	—	17.0	—	—	6.4	—	—	2.5	—	—	0.2
Amyl/Butyl Nitrites[c]	—	—	1.5	—	—	0.5	—	—	0.3	—	—	0.1
Hallucinogens	3.8	6.4	9.2	2.5	4.3	5.9	1.1	1.8	2.1	0.1	0.1	0.1
Hallucinogens, adj.[b]	—	—	9.4	—	—	6.2	—	—	2.3	—	—	0.1
LSD	3.2	5.8	8.6	2.1	4.0	5.6	0.9	1.6	2.0	*	0.1	0.1
PCP[c]	—	—	2.4	—	—	1.4	—	—	0.6	—	—	0.1
Hallucinogens Other than LSD	1.7	2.5	3.3	1.1	1.4	1.7	0.4	0.5	0.5	*	*	*
Cocaine	2.9	3.3	6.1	1.5	1.9	3.1	0.7	0.7	1.3	*	*	0.1
Crack	1.6	1.5	2.6	0.9	0.9	1.5	0.5	0.4	0.6	*	*	0.1
Other Cocaine[d]	2.4	3.0	5.3	1.2	1.7	2.6	0.5	0.6	1.0	*	*	*
Heroin	1.4	1.2	1.2	0.7	0.6	0.6	0.4	0.2	0.3	*	*	*
Other Opiates[e]	—	—	6.1	—	—	3.3	—	—	1.2	—	—	*
Stimulants[e]	10.8	13.1	13.9	6.5	8.2	7.1	3.3	3.6	2.8	0.1	0.1	0.2
Crystal Meth. (Ice)[f]	—	—	2.9	—	—	1.3	—	—	0.5	—	—	0.1
Sedatives[c,e]	—	—	6.1	—	—	2.9	—	—	1.2	—	—	*
Barbiturates[e]	—	—	5.5	—	—	2.8	—	—	1.1	—	—	*
Methaqualone[c,e]	—	—	1.6	—	—	0.6	—	—	0.4	—	—	0.1
Tranquilizers[e]	4.1	5.9	6.0	2.0	3.5	2.8	0.8	1.5	1.0	*	*	*
Alcohol Any use	69.3	82.3	87.5	53.7	70.2	76.8	26.1	39.9	51.3	0.6	1.2	3.4
5+ drinks in last 2 weeks	—	—	—	—	—	—	—	—	—	13.4	21.1	27.9
Been Drunk[f]	26.8	47.7	63.4	18.3	37.0	50.3	7.5	18.1	29.9	0.1	0.2	0.8
Cigarettes Any use	45.2	53.5	61.8	—	—	—	15.5	21.5	27.8	7.0	12.5	17.2
1/2pack+/day	—	—	—	—	—	—	—	—	—	2.9	6.0	10.0
Smokeless Tobacco[c,g]	20.7	26.6	32.4	—	—	—	7.0	9.6	11.4	1.8	3.3	4.3
Steroids[c]	1.7	1.7	2.1	1.1	1.1	1.1	0.5	0.6	0.6	*	*	0.1

NOTES: '—' indicates data not available. '*' indicates less than .05 per cent.

[a] 12th grade only: Data based on five questionnaire forms; N is five-sixths of N indicated.
[b] 12th grade only: Adjusted for underreporting of certain drugs. See text for details.
[c] 12th grade only: Data based on one questionnaire form. N is one-sixth of N indicated.
[d] 12th grade only: Data based on four questionnaire forms. N is four-sixths of N indicated.
[e] 12th grade only: Only drug use which was not under a doctor's orders is included here.
[f] 12th grade only: Data based on two questionnaire forms. N is two-sixths of N indicated.
[g] 8th and 10th grade: Data based on one questionnaire form. N is one-half of N indicated.

TABLE 5A

Frequency of Use of Various Types of Drugs: Lifetime, Annual, and Thirty-Day Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

	Marijuana			Inhalants[a]			Amyl/Butyl Nitrites			Hallucinogens[a]			LSD			PCP		
Grade	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approx. N=	18600	14800	15800	18600	14800	13100	—	—	2600	18600	14800	15800	18600	14800	15800	—	—	2600
Lifetime Frequency																		
No occasions	88.8	78.6	67.4	82.6	83.4	83.4	—	—	98.5	96.2	93.6	90.8	96.8	94.2	91.4	—	—	97.6
1-2 occasions	5.6	8.1	9.8	9.8	10.1	8.7	—	—	1.0	2.0	3.2	3.7	1.9	3.1	3.8	—	—	1.3
3-5 occasions	1.7	3.4	5.4	3.1	3.0	3.3	—	—	0.1	1.0	1.3	2.0	0.5	1.0	1.6	—	—	0.4
6-9 occasions	1.1	2.4	3.6	1.8	1.2	1.6	—	—	0.1	0.3	0.6	1.0	0.3	0.6	1.0	—	—	0.4
10-19 occasions	0.9	2.4	3.9	1.2	1.0	1.3	—	—	0.1	0.3	0.6	1.0	0.2	0.4	0.8	—	—	0.1
20-39 occasions	0.7	1.9	3.1	0.5	0.4	0.7	—	—	0.0	0.1	0.3	0.7	0.1	0.3	0.8	—	—	*
40 or more	1.2	3.2	6.8	1.0	0.9	1.0	—	—	0.2	0.2	0.5	0.9	0.1	0.3	0.7	—	—	0.2
Annual Frequency																		
No occasions	92.8	84.8	78.1	90.5	92.5	93.8	—	—	99.5	97.5	95.7	94.1	97.9	96.0	94.4	—	—	98.6
1-2 occasions	3.5	6.0	7.9	5.5	4.7	3.4	—	—	0.2	1.4	2.2	2.8	1.3	2.2	2.9	—	—	0.8
3-5 occasions	1.3	2.7	4.1	1.8	1.2	1.2	—	—	*	0.6	0.9	1.4	0.4	0.7	1.1	—	—	0.3
6-9 occasions	0.9	1.9	2.5	1.0	0.6	0.7	—	—	0.1	0.2	0.5	0.7	0.2	0.5	0.7	—	—	0.1
10-19 occasions	0.7	2.0	2.6	0.5	0.5	0.5	—	—	0.0	0.1	0.3	0.6	0.1	0.2	0.5	—	—	0.1
20-39 occasions	0.4	1.1	1.7	0.4	0.3	0.2	—	—	0.0	*	0.1	0.2	*	0.2	0.2	—	—	*
40 or more	0.4	1.5	3.0	0.4	0.3	0.3	—	—	0.1	0.1	0.2	0.3	0.1	0.1	0.2	—	—	0.1
30-Day Frequency																		
No occasions	96.3	91.9	88.1	95.3	97.3	97.7	—	—	99.7	98.9	98.2	97.9	99.1	98.4	98.0	—	—	99.4
1-2 occasions	2.0	3.8	5.0	3.0	1.6	1.5	—	—	0.1	0.6	1.1	1.3	0.7	1.1	1.4	—	—	0.4
3-5 occasions	0.8	1.6	2.5	0.8	0.6	0.4	—	—	*	0.3	0.4	0.5	0.2	0.3	0.4	—	—	*
6-9 occasions	0.5	1.1	1.3	0.3	0.2	0.1	—	—	0.1	0.1	0.1	0.2	0.1	0.1	0.1	—	—	0.1
10-19 occasions	0.3	0.8	1.3	0.3	0.2	0.1	—	—	0.0	*	0.1	0.1	*	*	*	—	—	*
20-39 occasions	0.1	0.4	0.9	0.2	*	*	—	—	*	*	*	*	*	*	*	—	—	0.0
40 or more	0.1	0.4	1.0	0.1	0.1	0.1	—	—	0.1	*	0.1	*	*	0.1	*	—	—	0.1

(Table continued on next page)

TABLE 5A (cont.)

Frequency of Use of Various Types of Drugs: Lifetime, Annual, and Thirty-Day Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

	Cocaine			Crack			Other Cocaine			Heroin			Other Opiates			Stimulants[b]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approx. N=	18600	14800	15800	18600	14800	15800	18600	14800	10600	18600	14800	15800	—	—	15800	18600	14800	15800
Lifetime Frequency																		
No occasions	97.1	96.7	93.9	98.4	98.5	97.4	97.6	97.0	94.7	98.6	98.8	98.8	—	—	93.9	89.2	86.9	86.1
1-2 occasions	1.3	1.6	2.8	1.0	0.9	1.3	1.6	1.8	2.6	0.9	0.7	0.7	—	—	3.2	6.1	6.8	6.0
3-5 occasions	0.9	0.7	1.1	0.2	0.2	0.4	0.3	0.4	0.9	0.2	0.2	0.2	—	—	1.1	1.8	2.3	2.8
6-9 occasions	0.1	0.2	0.5	0.1	0.1	0.2	0.2	0.2	0.4	0.1	0.1	0.2	—	—	0.6	1.0	1.3	1.4
10-19 occasions	0.2	0.3	0.7	0.1	0.1	0.2	0.2	0.3	0.5	0.1	0.1	0.1	—	—	0.6	0.7	1.0	1.3
20-39 occasions	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.3	*	0.1	*	—	—	0.3	0.5	0.7	1.0
40 or more	0.2	0.3	0.7	0.1	0.1	0.3	0.1	0.2	0.5	0.1	0.1	0.1	—	—	0.3	0.6	1.0	1.4
Annual Frequency																		
No occasions	98.5	98.1	96.9	99.1	99.1	98.5	98.8	98.3	97.4	99.3	99.4	99.4	—	—	96.7	93.5	91.8	92.9
1-2 occasions	0.7	0.9	1.3	0.5	0.5	0.7	0.7	1.0	1.3	0.4	0.3	0.3	—	—	1.8	3.8	4.3	3.4
3-5 occasions	0.4	0.4	0.7	0.2	0.1	0.2	0.2	0.2	0.4	0.1	0.1	0.2	—	—	0.7	1.1	1.6	1.4
6-9 occasions	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.2	*	*	0.1	—	—	0.4	0.7	1.0	0.7
10-19 occasions	0.2	0.2	0.4	*	0.1	0.2	0.1	0.2	0.2	*	0.1	0.1	—	—	0.2	0.5	0.6	0.9
20-39 occasions	*	0.1	0.2	*	*	0.1	*	*	0.3	*	*	*	—	—	0.1	0.2	0.4	0.4
40 or more	0.1	0.1	0.4	*	0.1	0.1	*	*	0.1	0.1	*	*	—	—	0.1	0.2	0.3	0.4
30-Day Frequency																		
No occasions	99.3	99.3	98.7	99.5	99.6	99.4	99.5	99.4	99.0	99.6	99.8	99.7	—	—	98.8	96.7	96.4	97.2
1-2 occasions	0.4	0.3	0.5	0.3	0.2	0.3	0.3	0.3	0.6	0.2	0.1	0.2	—	—	0.7	2.1	2.2	1.4
3-5 occasions	0.2	0.2	0.3	0.1	*	0.1	0.1	0.1	0.1	*	0.1	0.1	—	—	0.3	0.6	0.6	0.6
6-9 occasions	*	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	*	*	*	—	—	0.1	0.3	0.4	0.4
10-19 occasions	0.1	0.1	0.2	*	0.1	0.1	*	*	0.1	*	*	*	—	—	*	0.2	0.2	0.3
20-39 occasions	*	*	*	*	*	*	*	*	*	*	0.0	*	—	—	*	0.1	0.1	0.1
40 or more	*	*	0.1	*	*	0.1	*	*	*	*	*	*	—	—	*	*	*	0.1

(Table continued on next page)

TABLE 5A (cont.)

Frequency of Use of Various Types of Drugs: Lifetime, Annual, and Thirty-Day Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

	Crystal Meth. (Ice)			Barbiturates			Tranquilizers			Alcohol			Drunk			Steroids		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approx. N=	—	—	5300	—	—	15800	18600	14800	15800	18600	14800	15800	9300	7400	5300	18600	14800	5300
Lifetime Frequency																		
No occasions	—	—	97.1	—	—	94.5	95.9	94.1	94.0	30.7	17.7	12.5	73.2	52.3	36.4	98.3	98.3	97.9
1-2 occasions	—	—	1.9	—	—	2.8	2.9	3.3	3.5	20.8	15.1	10.6	14.8	19.0	15.9	0.9	0.9	1.2
3-5 occasions	—	—	0.3	—	—	1.0	0.6	1.1	1.0	15.5	14.9	11.9	5.4	9.9	10.7	0.3	0.3	0.5
6-9 occasions	—	—	0.1	—	—	0.7	0.3	0.5	0.5	10.1	12.9	9.7	2.7	6.2	8.6	0.1	0.1	0.2
10-19 occasions	—	—	0.2	—	—	0.4	0.2	0.5	0.4	10.1	13.9	13.2	1.8	5.5	8.4	0.1	0.1	0.1
20-39 occasions	—	—	0.1	—	—	0.3	0.1	0.2	0.3	5.7	10.5	12.7	1.1	3.4	7.6	0.1	0.1	*
40 or more	—	—	0.3	—	—	0.4	0.1	0.3	0.3	7.2	14.9	29.5	1.1	3.7	12.3	0.2	0.2	0.1
Annual Frequency																		
No occasions	—	—	98.7	—	—	97.2	98.0	96.5	97.2	46.3	29.8	23.2	81.7	63.0	49.7	98.9	98.9	98.9
1-2 occasions	—	—	0.8	—	—	1.5	1.3	2.2	1.7	25.5	23.7	18.9	11.6	18.5	17.4	0.6	0.6	0.7
3-5 occasions	—	—	0.2	—	—	0.5	0.3	0.6	0.5	12.4	15.6	13.8	3.4	7.7	10.6	0.1	0.2	0.2
6-9 occasions	—	—	0.1	—	—	0.3	0.2	0.3	0.3	7.4	10.8	11.0	1.7	4.9	6.7	0.1	0.1	*
10-19 occasions	—	—	*	—	—	0.2	0.1	0.2	0.2	4.9	10.6	12.7	0.9	3.2	7.2	0.1	0.1	0.1
20-39 occasions	—	—	*	—	—	0.1	*	0.1	0.1	2.1	5.3	9.3	0.5	1.5	4.6	0.1	0.1	*
40 or more	—	—	0.2	—	—	0.1	0.1	0.1	*	1.5	4.2	11.0	0.3	1.3	3.8	*	0.1	0.1
30-Day Frequency																		
No occasions	—	—	99.5	—	—	98.9	99.2	98.5	99.0	73.9	60.1	48.7	92.5	81.9	70.0	99.5	99.4	99.4
1-2 occasions	—	—	0.2	—	—	0.6	0.5	1.0	0.7	16.2	21.0	21.7	5.4	11.8	15.7	0.3	0.3	0.4
3-5 occasions	—	—	*	—	—	0.2	0.1	0.2	0.2	5.5	10.0	12.7	1.0	3.8	6.7	0.1	0.1	*
6-9 occasions	—	—	*	—	—	0.1	*	0.2	0.1	2.5	5.1	8.0	0.6	1.4	4.3	0.1	0.1	0.1
10-19 occasions	—	—	*	—	—	0.1	*	0.1	*	1.2	2.6	5.5	0.3	0.7	2.5	*	*	*
20-39 occasions	—	—	*	—	—	*	*	*	*	0.4	0.7	1.9	*	0.1	0.5	*	*	0.0
40 or more	—	—	0.1	—	—	*	*	*	*	0.2	0.6	1.5	0.1	0.2	0.3	*	*	0.1

NOTE: "*" indicates less than .05 percent. "–" indicates data not available.

[a]Unadjusted for known underreporting of certain drugs. See text for details.
[b]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

- ***Marijuana*** is by far the most widely used illicit drug among seniors and tenth graders, and among eighth graders follows inhalants in lifetime use. Thirty-three percent of seniors reported some ***marijuana*** use in their lifetime, 22% reported some use in the past year, and 12% reported some use in the past month. Among tenth graders, 21% reported some marijuana use in their lifetime, 15% reported some use in the past year, and 8% reported some use in the past month. Among eighth grade students marijuana has an 11% lifetime prevalence, although inhalants have a higher lifetime prevalence (17%).

- In tenth and twelfth grades, ***inhalants*** have a lifetime prevalence rate of 17%, which makes them the second most prevalent of the illicit drugs other than marijuana. These are followed closely by ***stimulants***, with lifetime prevalence rates of 13% and 14%, respectively. However, in terms of current use, inhalants rank lower at these grade levels since more of the early users have discontinued use (Figure 2).

- ***Cocaine*** is the next most widely used substance among seniors (6% lifetime prevalence) but ranks lower among eighth and tenth graders because cocaine initiation begins at a later age.

- ***Crack cocaine*** has a low prevalence in all grade levels; a lifetime prevalence of 1.6% for grade 8, 1.5% for grade 10, and 2.6% for grade 12. Crack is a form of cocaine which comes in small chunks or "rocks," and which can be smoked to produce a more rapid and intense high. It came onto the American scene very rapidly during the mid-1980s.

  Of all seniors, 2.6% indicated having tried crack at some time in their lives. Roughly half of that number (1.5%) reported use in the past year, but only one-fourth that number (0.6% of all seniors) reported use in the last month. Among those seniors who used cocaine in any form during the past year (3.1%), about 48% used it in crack form, usually in addition to using it in powdered form.

- ***Heroin*** is the least commonly used of the illicit drugs with about 1% of each grade level reporting any experience. Use is 1.4% for eighth grade students and 1.2% for tenth and twelfth grade students. This unusual pattern, which appears in a number of studies, may reflect the fact that heroin users are considerably more likely to have left school by senior year.

- About one in sixty-six seniors (1.5%) have tried the specific classes of inhalants known as ***amyl and butyl nitrites***. These inhalants have been sold legally and go by the street names "poppers" or "snappers" and such brand names as Locker Room and Rush. Use of the nitrites was not asked of eighth and tenth grade students.

Because we included questions specifically about nitrite use for the first time in one 1979 senior questionnaire form, we discovered that the users of amyl and butyl nitrites did not always report themselves to be inhalant users, and we were able to make estimates of the degree to which inhalant use was being underreported. As a result, all prevalence estimates made since then have been corrected for nitrite use. This correction has made very little difference in recent years because of their low rates of use.

- We also discovered in 1979, when specific questions about ***PCP*** use were added, that some users of PCP did not report themselves as users of hallucinogens, even though PCP is explicitly included as an example in the questions about hallucinogens. Thus, from 1979 onward, the ***hallucinogen*** prevalence and trend estimates for seniors also have been adjusted upward to correct for this known underreporting. PCP use is not asked of eighth and tenth graders.[11] Once again, this correction has made rather little difference in recent years because the rate of PCP use is so low.

- Lifetime prevalence among seniors for the specific hallucinogenic drug ***PCP*** now stands at 2.4%, substantially lower than the lifetime prevalence of the other most widely used hallucinogen, ***LSD*** (8.6%). LSD has been tried by 3.2% of the eighth graders and 5.8% of the tenth graders.

- ***Tranquilizers*** fall in the middle of the rankings, with lifetime prevalence rates of 4.1%, 5.9%, and 6.0% for grades 8, 10, and 12.

- ***Sedatives*** and ***opiates other than heroin*** are also in the middle ranking; both have been used by about 6.1% of seniors. (Data for eighth and tenth graders are not reported, as explained in an earlier footnote.)

- Within the general class sedatives, the specific drug ***methaqualone*** is used by considerably fewer seniors (1.6% lifetime prevalence) than the much broader subclass of sedatives, ***barbiturates*** (5.5% lifetime prevalence). Because methaqualone use has become so limited, questions about its use have not been included in the eighth and tenth grade questionnaires.

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[11]Because the data to adjust inhalant and hallucinogen use for seniors are available from only a single questionnaire form in a given year, the original uncorrected variables will be used in most relational analyses. We believe relational analyses will be least affected by these underestimates and that the most serious impact is on prevalence estimates, which have been adjusted appropriately. Today, the very low levels of use for nitrites and PCP–the two drugs which were used to adjust the estimates for inhalants and hallucinogens, respectively–are so low that these adjustments are hardly relevant any longer. Therefore, questions about their use have not been included in the eighth and tenth grade questionnaires.

- The illicit drug classes remain in roughly the same order whether ranked by lifetime, annual, or monthly prevalence, as the data in Figure 2 illustrate. The only important change in ranking occurs for ***inhalant use*** among the tenth and twelfth graders, for whom inhalants rank lower in terms of current use than was true for lifetime use, because use of some inhalants, like glues and aerosols, tends to be discontinued at a relatively early age.

- Use of either of the two major licit drugs, alcohol and cigarettes, remains more widespread than use of any of the illicit drugs. Seven of eight students (88%) have tried ***alcohol*** by twelfth grade; more than half of all seniors (51%) have used it in just the past month (Table 4). Even among eighth graders, the number of students who report some alcohol use in their life is high: 69% say they have tried alcohol and 26% are current drinkers. However, note in Table 5A that 21% of the eighth graders report using alcohol only once or twice–perhaps having just a few sips. In future years, eighth and tenth graders will be asked to omit occasions involving only a few sips.

- Of perhaps greater concern than the use of alcohol is its use to the point of inebriation: 27% of the eighth graders, 48% of the tenth graders, and 64% of the twelfth graders say they have "***been drunk***" at least once. The prevalence of drunkenness in the past 30 days is 8%, 18%, and 30%, respectively.

- Another measure of heavy drinking asks respondents on how many occasions they had consumed ***five or more drinks in a row*** within the previous two weeks. Prevalence rates for this behavior are 13%, 21%, and 28% for the three grades, respectively.

- Nearly two-thirds (62%) of seniors report having tried ***cigarettes*** at some time, and more than a quarter (28%) smoked at least some in the past month. Even among eighth graders, 45% report having tried cigarettes and 16% used in the past month.

- ***Smokeless tobacco*** is used by a surprisingly large number of young people. Among eighth, tenth, and twelfth graders, lifetime prevalence rates are 21%, 27%, and 32%, respectively, while current prevalence rates are 7%, 10%, and 11%. As will be discussed further below, the rates are considerably higher among boys, who account for most of this use.

- ***Anabolic steroids***, a class of controlled substances, were added to the study in recent years. These drugs bear some resemblance to other drugs in the study in that they are controlled but find their way into an illicit market. They also carry a particular danger for HIV transmission since they are often taken by injection. They differ from all the other drugs discussed here, however, in that they are not usually taken for

their direct psychoactive effects, though they may have some, but rather for their enhancement of the user's musculature. Clearly their potential unintended consequences, including the transmission of HIV, make their illicit use a public health concern. It is for these reasons that they have been added to the study.

The prevalence rates for anabolic steroids are relatively low at present. For eighth, tenth, and twelfth graders, lifetime prevalence is 1.7%, 1.7%, and 2.1%, while current prevalence is 0.5%, 0.6%, and 0.6%. (Rates for males are distinctly higher, as will be discussed below.)

While most of the discussion in this volume will focus on prevalence rates for different time periods (i.e., lifetime, annual, and 30-day), some readers will be interested in more detailed information about the frequency with which various drugs have been used in these same time periods. Tables 5A and 5B present such frequency-of-use information in as much detail as the original question and its answer set contains.

Daily Prevalence

Frequent use of illicit or licit drugs is a great concern for the health and safety of adolescents. Tables 9 and 14 and Figure 3 show the prevalence of current daily or near-daily use of the various classes of drugs. For all drugs except cigarettes, respondents are considered daily users if they indicated that they had used the drug on twenty or more occasions in the preceding 30 days. In the case of cigarettes, respondents explicitly state the use of one or more cigarettes per day, and for smokeless tobacco they state "about once a day" or more often.

- Across all three grade levels, ***cigarettes*** are used daily by more of the respondents than any of the other drug classes: 7%, 12%, and 17% in grades 8, 10, and 12, respectively. In fact, many students say they smoke half-a-pack or more per day (3%, 6%, and 10%).

- Daily use of ***smokeless tobacco*** is considerably lower than cigarette use, at 1.8%, 3.3%, and 4.3%.

- Daily use of ***alcohol*** is next most frequent, at all three grade levels, at 0.6%, 1.2%, and 3.4% in grades 8, 10, and 12.

- ***Marijuana*** still is used on a daily or near-daily basis by about one of every fifty seniors (1.9%); many fewer tenth grade students use daily (0.8%), and only 0.2% of eighth grade students report daily use. (See the last chapter of this volume for a discussion of levels of past daily use and cumulative daily use of marijuana.)

- Less than 1% of the senior respondents report daily use of any one of the ***illicit drugs other than marijuana***. They report 0.2% daily use of ***inhalants*** and ***stimulants***, followed by a number of drug classes at 0.1% or below. While very low, these figures are not

TABLE 5B

Frequency of Occasions of Heavy Drinking, and Cigarette and Smokeless Tobacco Use Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

	Percent who used		
	8th Grade	10th Grade	12th Grade
Q *Think back over the LAST TWO WEEKS. How many times have you had five or more drinks in a row?*			
None	86.6	78.9	72.1
Once	6.1	8.8	9.3
Twice	3.3	5.2	7.1
3 to 5 times	2.6	4.6	7.4
6 to 9 times	0.7	1.4	2.3
10 or more times	0.7	1.2	1.8
Approx. N=	(18600)	(14800)	(15800)
Q *Have you ever smoked cigarettes?*			
Never	54.8	46.5	38.2
Once or twice	24.9	25.2	26.4
Occasionally but not regularly	9.8	12.2	15.1
Regularly in the past	5.8	6.5	6.8
Regularly now	4.7	9.6	13.6
Approx. N=	(18600)	(14800)	(15800)
Q *How frequently have you smoked cigarettes during the past 30 days?*			
Not at all (includes "never" category from question above)	84.5	78.5	72.2
Less than one cigarette per day	8.4	9.1	10.6
One to five cigarettes per day	4.1	6.4	7.2
About one-half pack per day	1.6	3.3	5.2
About one pack per day	0.8	2.0	3.5
About one and one-half packs per day	0.3	0.5	0.9
Two packs or more per day	0.2	0.2	0.4
Approx. N=	(18600)	(14800)	(15800)
Q *Have you ever taken or used smokeless tobacco (snuff, plug, dipping tobacco, chewing tobacco)?*			
Never	79.3	73.4	67.6
Once or twice	12.7	14.3	15.5
Occasionally but not regularly	4.0	6.2	8.6
Regularly in the past	2.2	3.0	3.8
Regularly now	1.8	3.1	4.6
Approx. N=	(9300)	(7400)	(2600)
Q *How frequently have you taken smokeless tobacco during the past 30 days?*			
Not at all	93.0	90.4	88.6
Once or twice	3.7	4.4	4.9
Once or twice per week	0.8	1.5	1.3
Three to five times per week	0.7	0.7	0.9
About once a day	0.4	0.7	0.6
More than once a day	1.3	2.3	3.8
Approx. N=	(9300)	(7400)	(2600)

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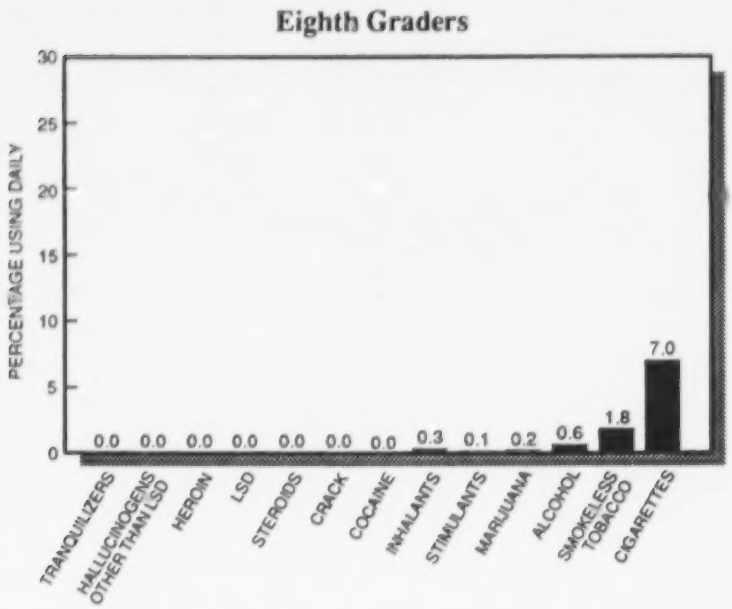
FIGURE 3

Thirty-Day Prevalence of Daily Use
Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1992



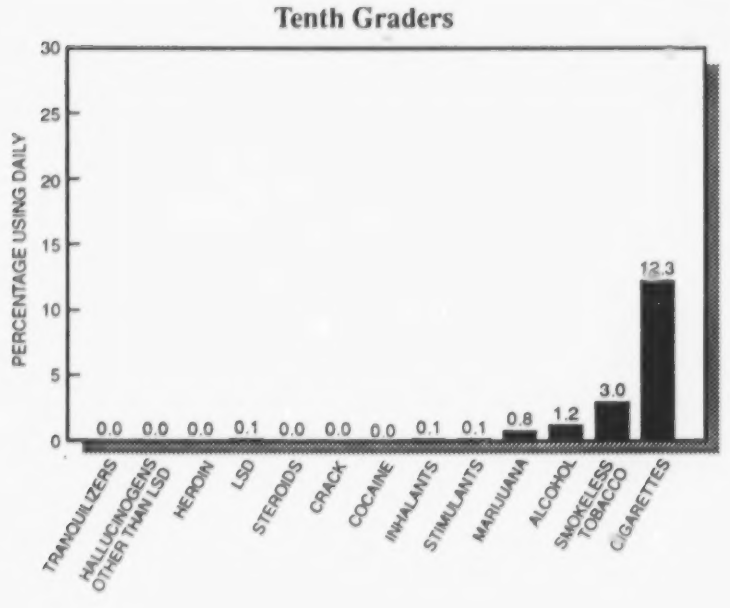
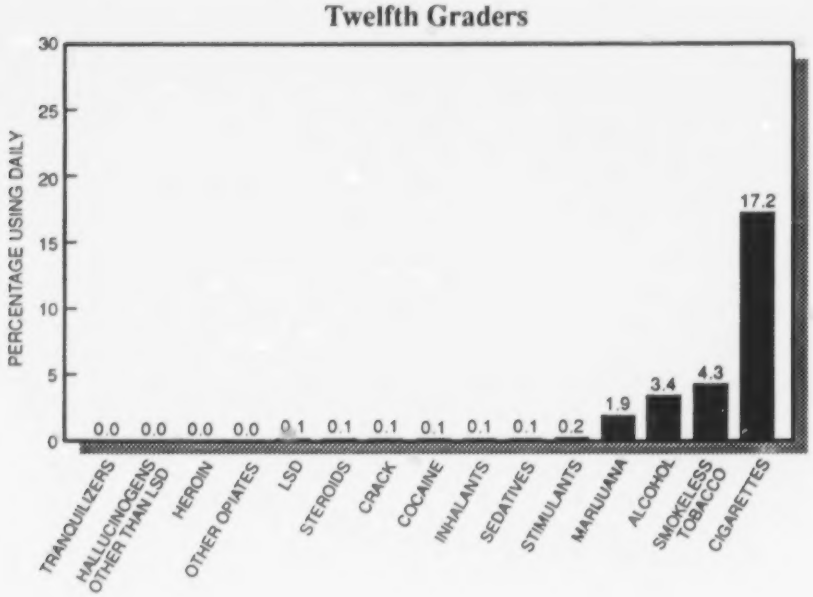


FIGURE 3 (cont.)

Thirty-Day Prevalence of Daily Use
Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1992



inconsequential, because 1% of the high school class of 1992 represents approximately 25,000 individuals.

- As would be expected, the daily use figures for the illicit drugs are lower in eighth and tenth grades. ***Marijuana*** is used daily by 0.8% of tenth graders, and ***inhalants*** are used on a daily basis by 0.3% of eighth graders. Daily use figures for all other classes of illicit drugs are at or below 0.2%.

NONCONTINUATION RATES

An indication of the extent to which people who try a drug do not continue to use it can be derived from calculating the percentage, based on those who ever used a drug (once or more), who did not use it the 12 months preceding the survey.[12] We use the word "noncontinuation" rather than "discontinuation," since the latter might imply discontinuing an established pattern of use, whereas our current operational definition includes experimental users as well as established users. These noncontinuation rates are provided for all drug classes in Figure 4 for the senior class of 1992. (Only data for seniors are presented here.) It may be seen in Figure 4 that noncontinuation rates vary widely among the different drugs.

- The highest noncontinuation rates observed are for ***nitrites*** (67%), ***methaqualone*** (63%) and ***inhalants*** (62%). Many of the inhalants are used primarily at a younger age, and the use of methaqualone and nitrites may have declined in part, because they are no longer readily available.

- By senior year, a high noncontinuation rate is found for ***heroin*** (50%) and ***cocaine*** (49%). All of the ***psychotherapeutic drugs*** have noncontinuation rates near 50%.

- Because a relatively high proportion of users continue to use ***marijuana*** at some level over an extended period it consistently has had one of the lowest noncontinuation rates (33%) in senior year of any of the illicit drugs.

- Contrary to the widespread belief that ***crack*** is almost instantly addicting, it is noteworthy that, of the seniors who have ever used crack (2.6%), only about one-fourth (0.6%) are current users and only 0.1% of the total sample are daily users. While there is no question that crack is highly addictive, this evidence suggests that it is not usually addictive on the first use.

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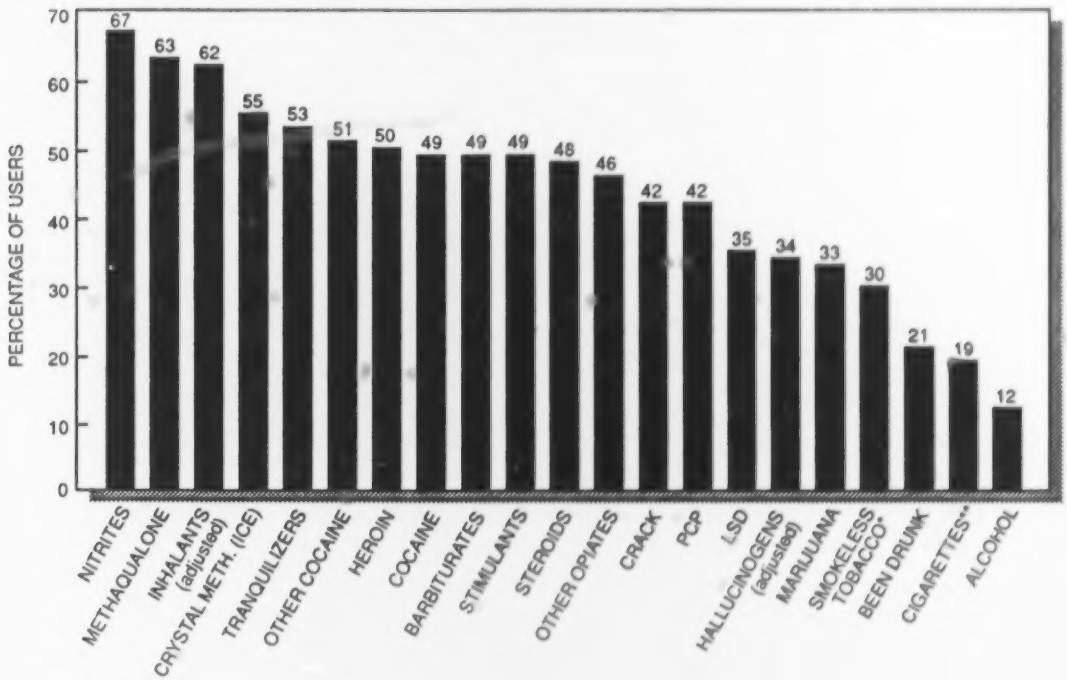
[12]This operationalization of noncontinuation has an inherent problem in that users of a given drug who initiate use during the past year by definition cannot be noncontinuers. Thus, the definition tends to understate the noncontinuation rate, particularly for drugs that tend to be initiated late in high school rather than in earlier years.

FIGURE 4

Noncontinuation Rates: Percent of Twelfth Graders Who Used Drug Once or More in Lifetime but Did Not Use in Past Year, 1992



*Percent of regular smokeless tobacco users (ever) who did not use smokeless tobacco in the last thirty days.

**Percent of regular smokers (ever) who did not smoke at all in the last thirty days.

- The remaining ***illicit drugs*** have noncontinuation rates ranging from 39% to 52%.

- In contrast to illicit drugs, noncontinuation rates for the two licit drugs are extremely low. ***Alcohol***, which has been tried by nearly all seniors (88%), is used in senior year by nearly all of those who have ever tried it (77% of all seniors) yielding a noncontinuation rate for alcohol of only 12%. Of the many seniors who say they have ever been drunk (63%), only about a fifth of them (21%) said they had not been drunk in the prior twelve months.

- Noncontinuation is defined differently for ***cigarettes***, because cigarette use in the past year is not asked of respondents. The noncontinuation rate is the percentage of those who say they ever smoked "regularly" who report not smoking at all during the past 30 days. Only 19% of seniors who say they were regular smokers have ceased active use.

- ***Smokeless tobacco*** also has a low rate of noncontinuation, with only 30% of the lifetime users not using in the past year. Noncontinuation is defined much the same way as for cigarettes.

PREVALENCE COMPARISONS FOR IMPORTANT SUBGROUPS

Sex Differences

In general, higher proportions of males than females are involved in illicit drug use, especially heavy drug use; however, this picture is a somewhat complicated one (see Tables 6 through 9).

- Overall the proportion ever using ***marijuana*** is somewhat higher among males, but daily use of marijuana is much more frequent among males in twelfth grade (2.8% vs. 1.0% for females). This is also true among eighth and tenth grade students.

- Males also have considerably higher prevalence rates on most other illicit drugs. The annual prevalence rates in senior year (Table 7) tend to be at least one and one-half to two and one-half times as high among males as among females for ***nitrites*** and the specific drugs ***LSD, PCP, heroin, cocaine, crack cocaine, inhalants***, and ***ice***. Further, males account for an even greater share of the frequent or heavy users of these various classes of drugs. For many of these drugs there is little or no sex difference among eighth and tenth graders.

- For a few drugs, females approach, or even exceed, the annual prevalence rates for males in the case of ***opiates other than heroin***, ***tranquilizers, barbiturates***, and ***stimulants***.

TABLE 6

Lifetime Prevalence of Use of Various Types of Drugs by Subgroups, Twelfth Graders, 1992

(Entries are percentages)

	Marijuana	Inhalants[a]	Amyl/Butyl Nitrites	Hallucinogens[a]	LSD	PCP	Cocaine	Crack	Other Cocaine	Heroin	Other Opiates	Stimulants[b]	Crystal Meth. (Ice)	Sedatives	Barbiturates	Methaqualone	Tranquilizers[b]	Alcohol	Been Drunk	Cigarettes	Smokeless	Steroids
All Seniors	32.6	16.6	1.5	9.2	8.6	2.4	6.1	2.6	5.3	1.2	6.1	13.9	2.9	6.1	5.5	1.6	6.0	87.5	63.4	61.8	32.4	2.1
Sex:																						
Male	36.3	20.4	2.1	10.9	10.3	3.0	7.0	2.9	5.9	1.7	6.3	13.4	3.4	6.4	5.6	1.8	5.3	87.6	65.7	63.5	53.7	3.5
Female	28.6	13.1	0.8	7.5	7.0	1.8	5.1	2.0	4.6	0.8	6.0	14.3	2.5	5.8	5.4	1.4	6.6	87.6	60.9	60.2	12.1	0.7
College Plans:																						
None or under 4 yrs	41.8	21.4	2.4	12.4	11.9	4.6	10.0	4.5	8.5	2.1	8.4	19.8	4.2	8.6	8.3	2.4	8.2	90.2	67.6	72.2	39.3	3.7
Complete 4 yrs	28.8	15.0	1.1	7.8	7.2	1.5	4.7	1.8	4.0	0.9	5.4	11.8	2.5	5.0	4.5	1.2	5.1	86.9	61.8	58.3	30.2	1.6
Region:																						
Northeast	34.5	14.7	0.3	10.0	9.1	1.0	5.6	2.2	5.3	1.0	6.1	12.8	2.2	5.7	5.7	1.3	5.5	89.3	65.5	63.7	25.3	1.6
North Central	32.1	18.7	2.2	9.0	8.5	2.4	4.8	2.1	4.2	1.2	6.7	16.4	2.9	5.9	5.3	1.1	5.4	90.1	70.4	65.2	38.5	2.7
South	29.9	15.4	1.5	7.5	7.1	2.5	6.0	2.2	4.9	1.3	5.8	12.9	2.1	6.6	5.9	1.6	7.2	86.4	58.7	61.1	31.5	1.2
West	36.8	17.4	1.4	12.2	11.4	3.2	8.7	4.1	7.6	1.5	5.9	13.2	5.3	6.0	5.1	2.7	5.2	84.3	60.3	56.5	32.0	3.2
Population Density:																						
Large SMSA	32.5	14.8	2.4	9.4	8.8	3.6	6.6	2.7	5.8	0.9	6.3	11.4	3.6	5.6	5.1	1.5	6.3	86.6	60.1	59.0	23.4	1.8
Other SMSA	32.6	16.9	1.1	9.7	9.2	1.5	6.4	2.7	5.4	1.4	5.5	13.4	2.8	5.6	5.1	1.6	5.6	87.7	62.5	60.9	32.8	2.4
Non-SMSA	32.7	17.4	1.4	8.1	7.5	3.2	5.0	2.1	4.5	1.2	7.2	17.3	2.5	7.6	6.9	1.8	6.6	88.0	68.4	66.1	39.6	1.8
Parental Education:[c]																						
1.0-2.0 (Low)	36.6	14.6	1.4	8.0	7.6	3.5	9.3	4.5	8.7	2.0	6.2	15.9	1.7	4.9	8.7	3.9	8.4	85.8	59.9	63.7	30.9	4.5
2.5-3.0	32.9	16.7	1.2	8.8	8.3	2.6	6.5	2.8	5.1	1.3	6.4	15.1	3.2	3.4	5.3	1.7	6.2	88.9	65.3	64.2	34.3	1.7
3.5-4.0	33.2	17.3	1.9	9.2	8.6	2.7	5.9	2.3	5.4	1.1	6.3	14.7	3.0	4.0	5.4	1.3	5.3	88.6	64.7	61.6	34.3	2.4
4.5-5.0	30.0	16.6	1.8	9.4	8.7	2.6	5.0	1.9	4.1	1.3	6.4	12.2	2.8	2.5	5.0	0.9	6.3	86.4	60.5	59.2	30.4	1.4
5.5-6.0 (High)	29.6	16.8	0.7	10.0	9.4	0.5	4.4	1.5	3.2	0.8	4.8	10.6	3.7	2.9	5.0	1.5	4.9	87.0	64.0	59.8	31.6	1.8

NOTE: Prevalence of use of each drug was included in all six questionnaire forms with the following exceptions: Inhalants was in five forms; other cocaine was in four forms; crystal methamphetamine (ice), steroids, and "been drunk" were in two forms; and nitrites, PCP, sedatives, smokeless tobacco and methaqualone were in one form.

See Table 7 for sample sizes.

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Only drug use which was not under doctor's orders is included here.

[c] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 7

Annual Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

Grade:	Approx. N			Marijuana			Inhalants[a,b]			Hallucinogens[b]			LSD			Cocaine		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	18600	14800	15800	7.2	15.2	21.9	9.5	7.5	6.2	2.5	4.3	5.9	2.1	4.0	5.6	1.5	1.9	3.1
Sex:																		
Male	8800	7000	7400	7.4	16.3	24.4	9.2	7.6	8.0	2.6	4.7	7.1	2.1	4.3	6.7	1.5	2.0	3.7
Female	9300	7400	7900	6.9	13.9	18.9	9.8	7.5	4.6	2.3	3.8	4.7	2.0	3.6	4.4	1.5	1.7	2.4
College Plans:																		
None or under 4 yrs	2400	2400	3700	17.5	25.1	27.5	15.6	12.4	7.7	7.2	7.5	7.8	6.4	7.0	7.6	4.8	4.9	5.1
Complete 4 yrs	15400	12000	11200	5.5	13.0	19.4	8.8	6.4	5.7	1.8	3.6	5.1	1.5	3.4	4.8	1.0	1.4	2.4
Region:																		
Northeast	3700	3000	2800	5.8	14.9	23.9	8.6	7.8	6.0	1.6	2.7	7.1	1.4	2.6	6.6	0.8	1.0	2.8
North Central	5300	3800	4400	6.0	14.8	22.7	10.5	8.0	7.4	2.4	4.3	5.9	1.8	4.1	5.5	1.4	1.7	2.5
South	6200	5000	5600	7.3	12.5	18.1	9.1	6.6	4.8	2.7	3.9	4.7	2.4	3.7	4.4	1.7	1.8	3.2
West	3400	3000	3000	10.3	20.4	26.1	9.8	8.0	7.5	3.2	6.5	7.3	2.9	5.9	7.0	2.0	3.2	4.3
Population Density:																		
Large SMSA	5700	3700	3600	6.7	15.1	22.6	9.1	7.8	6.0	2.2	4.6	6.2	2.0	4.4	5.7	1.4	1.6	3.6
Other SMSA	8300	7300	8200	8.3	15.9	22.1	10.3	7.4	6.6	3.0	4.4	6.0	2.5	4.1	5.8	1.7	2.1	3.3
Non-SMSA	4600	3800	4000	5.7	13.9	21.0	8.6	7.5	5.6	2.0	3.7	5.5	1.6	3.5	5.1	1.3	1.7	2.4
Parental Education[c]																		
1.0-2.0 (Low)	1700	1300	1400	12.7	18.9	21.2	11.4	8.2	4.2	3.7	4.9	3.6	3.1	4.4	3.3	3.2	3.5	3.9
2.5-3.0	4600	3900	4100	7.7	16.0	21.1	9.9	7.9	6.7	2.3	4.2	5.6	2.1	4.2	5.2	1.6	1.7	3.3
3.5-4.0	4300	3900	4600	7.0	15.1	22.7	10.0	8.3	6.3	2.5	4.6	6.0	2.0	4.1	5.7	1.2	2.1	3.0
4.5-5.0	4100	3400	3400	5.4	14.1	20.8	8.4	6.5	6.3	2.0	3.8	6.2	1.5	3.6	5.8	1.0	1.4	2.9
5.5-6.0 (High)	2300	1700	1700	5.2	13.7	22.6	10.3	6.7	6.7	2.4	4.2	7.4	2.0	3.9	7.0	1.5	1.5	2.6

[a]12th grade only. Data based on five questionnaire forms. N is five-sixths of N indicated.
[b]Unadjusted for known underreporting of certain drugs. See text for details.
[c]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 7 (cont.)

Annual Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

Grade	Crack			Other Cocaine[a]			Heroin			Other Opiates[b]			Stimulants[b]			Barbiturates[b]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.9	0.9	1.5	1.2	1.7	2.6	0.7	0.6	0.6	—	—	3.3	6.5	8.2	7.1	—	—	2.8
Sex																		
Male	0.9	0.9	1.7	1.2	1.9	3.1	0.8	0.8	0.8			3.3	5.2	7.0	7.2			2.9
Female	0.9	0.9	1.0	1.2	1.5	2.0	0.7	0.4	0.3	—	—	3.3	7.9	9.3	6.9			2.6
College Plans																		
None or under 4 yrs	2.9	2.1	2.6	4.2	3.3	4.0	2.7	1.4	0.9	—	—	4.3	12.9	14.4	9.7	—	—	3.9
Complete 4 yrs	0.6	0.6	1.0	0.7	1.3	2.0	0.4	0.4	0.5			3.0	5.7	6.9	6.1	—	—	2.3
Region																		
Northeast	0.4	0.4	1.3	0.7	1.0	2.8	0.6	0.6	0.5			3.7	4.3	5.4	6.2	—	—	2.7
North Central	1.0	0.9	1.4	1.0	1.3	2.2	0.8	0.6	0.6			3.6	8.0	9.4	8.4	—	—	2.7
South	1.0	0.8	1.2	1.5	1.6	2.5	0.7	0.5	0.6	—	—	2.7	6.6	8.7	6.7	—	—	3.0
West	1.3	1.4	2.1	1.5	3.1	3.1	0.7	0.8	0.8			3.5	6.6	8.4	6.9			2.5
Population Density																		
Large SMSA	0.8	0.8	1.3	1.1	1.5	3.1	0.7	0.6	0.4	—	—	3.5	4.8	6.7	6.0			2.4
Other SMSA	1.1	0.9	1.6	1.4	2.0	2.5	0.8	0.6	0.7	—	—	3.1	7.5	8.0	6.7	—	—	2.6
Non-SMSA	0.8	0.9	1.3	0.9	1.4	2.3	0.7	0.6	0.7			3.6	7.0	10.0	9.0			3.4
Parental Education[c]																		
1.0-2.0 (Low)	2.2	1.7	1.9	2.7	2.7	3.7	1.4	0.5	0.7			3.5	8.4	11.9	7.0	—	—	3.9
2.5-3.0	0.8	0.8	1.9	1.1	1.6	2.3	0.7	0.7	0.6	—	—	3.5	7.3	8.9	7.7	—	—	2.4
3.5-4.0	0.7	1.0	1.3	1.0	2.0	2.6	0.6	0.6	0.6	—	—	3.2	7.4	8.4	7.7	—	—	2.8
4.5-5.0	0.6	0.6	1.0	0.8	1.3	2.3	0.5	0.5	0.7	—	—	3.4	5.5	6.6	6.3			2.9
5.5-6.0 (High)	1.0	0.9	0.8	1.2	1.3	2.0	0.8	0.5	0.3			3.2	5.4	6.9	5.8	—	—	2.4

NOTE: "—" indicates data not available.

[a] 12th grade only. Data based on four questionnaire forms. N is four-sixths of N indicated.

[b] Only drug use which was not under doctor's orders is included here.

[c] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 7 (cont.)

Annual Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

	Tranquilizers[a]			Alcohol			Been Drunk[b]			Cigarettes			Smokeless Tobacco[c]			Steroids[b]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	2.0	3.5	2.8	53.7	70.2	76.8	18.3	37.0	50.3	—	—	—	—	—	—	1.1	1.1	1.1
Sex:																		
Male	1.6	2.7	2.7	53.6	69.7	77.2	17.7	37.0	53.9	—	—	—	—	—	—	1.7	1.9	2.1
Female	2.3	4.3	3.0	53.9	70.9	76.2	19.0	37.3	46.5	—	—	—	—	—	—	0.5	0.3	0.1
College Plans:																		
None or under 4 yrs	4.9	6.0	3.9	62.0	76.3	79.7	31.3	48.8	50.0	—	—	—	—	—	—	2.4	1.3	2.1
Complete 4 yrs	1.5	3.1	2.5	52.7	69.1	75.9	16.6	34.7	50.1	—	—	—	—	—	—	0.9	1.0	0.8
Region:																		
Northeast	1.6	2.8	3.0	54.9	76.7	79.3	17.7	39.4	51.7	—	—	—	—	—	—	1.1	0.9	0.6
North Central	1.9	3.0	2.3	57.1	71.2	80.8	19.0	39.4	59.5	—	—	—	—	—	—	1.2	1.1	1.4
South	2.5	4.5	3.5	51.3	66.2	74.3	18.8	33.9	45.0	—	—	—	—	—	—	1.1	1.2	0.6
West	1.6	3.2	2.3	51.1	69.3	72.9	16.9	36.8	45.4	—	—	—	—	—	—	0.9	1.2	2.3
Population Density:																		
Large SMSA	2.1	3.3	2.9	55.4	70.5	76.4	17.5	35.4	47.8	—	—	—	—	—	—	1.0	0.9	1.0
Other SMSA	1.8	3.8	2.7	54.5	69.8	76.3	18.9	35.8	48.8	—	—	—	—	—	—	1.2	1.0	1.4
Non-SMSA	2.2	3.3	3.1	50.2	70.8	78.1	18.1	41.1	55.6	—	—	—	—	—	—	0.9	1.4	0.8
Parental Education[d]																		
1.0-2.0 (Low)	3.8	5.3	3.9	58.0	70.1	75.1	24.1	40.5	38.7	—	—	—	—	—	—	1.2	0.9	2.1
2.5-3.0	2.1	3.5	2.8	53.7	72.0	77.8	21.0	38.5	52.9	—	—	—	—	—	—	1.2	1.1	0.9
3.5-4.0	2.2	3.4	2.7	55.7	70.5	76.9	19.0	37.6	50.3	—	—	—	—	—	—	1.0	1.2	1.3
4.5-5.0	0.9	3.9	3.0	52.8	69.6	76.2	16.0	36.7	48.9	—	—	—	—	—	—	0.9	1.0	0.9
5.5-6.0 (High)	1.9	2.3	2.2	53.9	71.5	79.1	14.8	34.8	56.3	—	—	—	—	—	—	1.3	1.4	0.8

NOTE: "—" indicates data not available.

[a]Only drug use not under a doctor's orders is included here.
[b]12th grade only. Data based on two questionnaire forms. N is two-sixths of N indicated.
[c]Data based on one questionnaire form. N is one-sixth of N indicated for 12th grade, N is one-half of N indicated for 8th and 10th grades.
[d]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 8

Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

	Approx. N			Marijuana			Inhalants[a,b]			Hallucinogens[b]			LSD			Cocaine		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	18600	14800	15800	3.7	8.1	11.9	4.7	2.7	2.3	1.1	1.8	2.1	0.9	1.6	2.0	0.7	0.7	1.3
Sex:																		
Male	8800	7000	7400	3.8	9.0	13.4	4.4	2.9	3.0	1.1	2.1	2.9	0.9	1.9	2.7	0.6	0.8	1.5
Female	9300	7400	7900	3.5	7.1	10.2	4.9	2.6	1.6	1.0	1.4	1.4	0.9	1.3	1.3	0.8	0.6	0.9
College Plans:																		
None or under 4 yrs	2400	2400	3700	11.5	14.3	15.0	8.5	4.2	2.7	4.0	3.8	2.8	3.6	3.4	2.6	2.7	1.4	2.3
Complete 4 yrs	15400	12000	11200	2.5	6.7	10.4	4.2	2.4	2.2	0.7	1.4	1.8	0.5	1.2	1.7	0.4	0.6	0.8
Region:																		
Northeast	3700	3000	2800	3.1	7.7	14.4	4.7	3.3	2.0	0.7	0.9	2.2	0.6	0.9	2.1	0.4	0.4	1.1
North Central	5300	3800	4400	3.0	7.6	12.2	5.0	2.7	3.0	1.1	2.1	2.2	0.9	1.9	2.0	0.6	0.7	1.2
South	6200	5000	5600	3.7	6.6	9.4	4.5	2.6	1.8	1.2	1.4	1.8	1.0	1.1	1.6	0.8	0.5	1.1
West	3400	3000	3000	5.6	11.7	14.0	4.6	2.5	2.3	1.4	3.0	2.8	1.3	2.7	2.6	1.0	1.3	1.8
Population Density:																		
Large SMSA	5700	3700	3600	3.3	8.0	12.9	4.7	3.1	2.3	1.0	1.8	2.2	0.9	1.6	2.0	0.6	0.6	1.6
Other SMSA	8300	7300	8200	4.4	8.6	11.5	5.1	2.6	2.4	1.3	2.0	2.4	1.1	1.8	2.3	0.9	0.8	1.2
Non-SMSA	4600	3800	4000	3.1	7.2	12.0	4.0	2.7	2.1	0.9	1.4	1.6	0.7	1.2	1.4	0.6	0.5	1.2
Parental Education:[c]																		
1.0-2.0 (Low)	1700	1300	1400	7.2	11.2	9.7	6.0	2.8	2.0	2.2	1.9	1.5	1.8	1.5	1.4	1.8	1.0	1.9
2.5-3.0	4600	3900	4100	3.9	8.0	11.9	4.8	3.0	2.6	1.0	1.7	1.9	1.0	1.6	1.7	0.6	0.6	1.3
3.5-4.0	4300	3900	4600	3.5	8.3	12.2	5.0	3.1	2.4	1.0	2.0	2.0	0.8	1.8	1.8	0.5	0.8	1.1
4.5-5.0	4100	3400	3400	2.9	7.4	12.1	4.0	2.2	2.0	0.7	1.4	2.5	0.6	1.2	2.3	0.6	0.5	0.9
5.5-6.0 (High)	2300	1700	1700	2.4	7.5	11.6	4.9	2.3	2.5	1.1	1.9	3.1	0.9	1.8	3.1	0.8	0.8	1.4

[a] 12th grade only. Data based on five questionnaire forms. N is five-sixths of N indicated.

[b] Unadjusted for known underreporting of certain drugs. See text for details.

[c] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 8 (cont.)

Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

	Crack			Other Cocaine[a]			Heroin			Other Opiates[b]			Stimulants[b]			Barbiturates[b]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.5	0.4	0.6	0.5	0.6	1.0	0.4	0.2	0.3	—	—	1.2	3.3	3.6	2.8	—	—	1.1
Sex:																		
Male	0.4	0.4	0.8	0.4	0.6	1.2	0.4	0.3	0.5	—	—	1.2	2.5	3.0	2.9	—	—	1.2
Female	0.5	0.4	0.4	0.6	0.5	0.7	0.3	0.2	0.2	—	—	1.1	4.0	4.1	2.5	—	—	0.9
College Plans:																		
None or under 4 yrs	1.8	0.7	1.0	2.1	1.1	1.5	1.3	0.6	0.5	—	—	1.6	7.4	7.4	4.0	—	—	1.7
Complete 4 yrs	0.3	0.3	0.5	0.3	0.5	0.7	0.2	0.1	0.2	—	—	1.0	2.7	2.8	2.2	—	—	0.8
Region:																		
Northeast	0.2	0.2	0.5	0.4	0.3	1.1	0.4	0.2	0.3	—	—	1.6	1.7	2.2	2.1	—	—	1.4
North Central	0.5	0.5	0.7	0.4	0.6	1.0	0.3	0.2	0.3	—	—	1.0	4.6	4.1	3.4	—	—	0.8
South	0.5	0.3	0.6	0.6	0.4	0.9	0.4	0.2	0.3	—	—	1.1	3.3	3.9	2.7	—	—	1.2
West	0.7	0.6	0.8	0.7	1.1	1.1	0.3	0.3	0.4	—	—	1.0	2.9	3.6	2.8	—	—	1.0
Population Density:																		
Large SMSA	0.3	0.2	0.8	0.4	0.6	1.3	0.4	0.2	0.2	—	—	1.1	2.5	2.9	2.3	—	—	0.9
Other SMSA	0.6	0.4	0.5	0.7	0.6	0.9	0.3	0.2	0.3	—	—	1.0	3.8	3.5	2.6	—	—	1.0
Non-SMSA	0.3	0.4	0.7	0.4	0.4	0.9	0.3	0.3	0.4	—	—	1.6	3.4	4.4	3.6	—	—	1.3
Parental Education:[c]																		
1.0-2.0 (Low)	1.3	0.5	1.1	1.3	0.8	1.4	0.7	0.2	0.4	—	—	1.3	4.8	6.6	2.4	—	—	1.8
2.5-3.0	0.3	0.3	0.9	0.5	0.4	0.9	0.4	0.2	0.4	—	—	1.4	3.6	3.4	3.1	—	—	0.9
3.5-4.0	0.3	0.5	0.5	0.3	0.7	1.1	0.3	0.3	0.2	—	—	1.0	3.9	3.6	3.3	—	—	0.9
4.5-5.0	0.3	0.2	0.5	0.4	0.4	0.7	0.2	0.1	0.3	—	—	1.1	2.5	2.9	2.3	—	—	1.1
5.5-6.0 (High)	0.4	0.5	0.3	0.6	0.7	0.9	0.4	0.2	0.3	—	—	1.2	2.7	3.0	1.7	—	—	1.2

NOTE: "—" indicates data not available.

[a]12th grade only. Data based on four questionnaire forms. N is four-sixths of N indicated.
[b]Only drug use which was not under doctor's orders is included here.
[c]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 8 (cont.)

Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

	Tranquilizers[a]			Alcohol			Been Drunk[b]			Cigarettes			Smokeless Tobacco[c]			Steroids[b]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.8	1.5	1.0	26.1	39.9	51.3	7.5	18.1	29.9	15.5	21.5	27.8	7.0	9.6	11.4	0.5	0.6	0.6
Sex:																		
Male	0.5	1.1	1.0	26.3	41.6	55.8	7.4	18.6	35.2	14.9	20.6	29.2	12.5	18.1	20.8	0.9	1.0	1.1
Female	1.0	1.8	1.1	25.9	38.3	46.8	7.6	17.5	24.5	15.9	22.2	26.1	2.0	1.8	2.0	0.2	0.1	0.1
College Plans:																		
None or under 4 yrs	1.9	2.8	1.4	39.6	49.5	54.9	17.2	26.3	31.4	31.9	35.0	38.6	17.1	17.5	18.0	1.3	0.7	1.1
Complete 4 yrs	0.6	1.2	0.9	24.2	37.9	50.0	6.1	16.4	29.2	13.1	18.6	23.8	5.5	8.0	9.4	0.4	0.5	0.4
Region:																		
Northeast	0.5	1.5	1.1	23.8	42.3	51.5	6.4	18.8	30.0	14.4	21.9	29.6	4.9	5.3	8.2	0.5	0.6	0.5
North Central	0.6	1.1	1.0	28.3	40.3	58.0	7.6	18.9	38.2	16.5	24.3	31.7	7.5	9.6	12.3	0.5	0.6	1.1
South	1.1	1.9	1.2	26.8	38.2	48.1	8.2	16.8	25.2	17.0	19.8	26.4	9.3	11.4	12.5	0.5	0.6	0.3
West	0.7	1.2	0.8	23.5	39.8	46.7	6.9	18.3	26.6	12.2	20.2	22.8	4.4	10.9	11.1	0.7	0.6	0.5
Population Density:																		
Large SMSA	0.7	1.2	1.2	27.4	40.4	49.0	7.0	17.6	26.1	15.0	21.6	25.6	4.2	6.4	5.9	0.4	0.5	0.7
Other SMSA	0.8	1.6	0.9	26.1	38.6	50.8	7.4	17.3	29.8	15.3	20.3	26.9	6.9	9.3	11.1	0.7	0.5	0.6
Non-SMSA	0.8	1.4	1.1	24.2	41.9	54.1	8.2	19.9	33.7	16.4	23.7	31.5	10.3	13.3	16.9	0.4	0.8	0.5
Parental Education[d]																		
1.0-2.0 (Low)	1.9	3.0	1.3	32.8	40.4	45.6	11.0	18.2	20.5	24.1	28.4	27.1	7.8	10.1	14.9	0.9	0.6	1.7
2.5-3.0	0.7	1.6	1.0	27.2	40.9	52.3	8.8	18.5	30.0	16.9	23.3	30.3	8.5	11.0	12.4	0.5	0.6	0.7
3.5-4.0	0.9	1.3	0.9	26.3	40.0	51.2	7.6	19.4	31.3	14.9	20.6	27.8	7.0	10.5	12.4	0.5	0.6	0.4
4.5-5.0	0.3	1.3	1.2	24.6	39.4	51.0	6.5	17.1	29.4	13.3	19.5	25.8	7.0	7.6	8.0	0.4	0.5	0.3
5.5-6.0 (High)	0.6	1.1	0.9	25.2	41.7	55.7	4.9	18.5	34.3	11.5	18.9	25.5	4.6	8.1	10.6	0.8	0.6	0.3

[a]Only drug use not under a doctor's orders is included here.

[b]12th grade only. Data based on two questionnaire forms. N is two-sixths of N indicated.

[c]Data based on one questionnaire form. N is one-sixth of N indicated for 12th grade. N is one-half of N indicated for 8th and 10th grades.

[d]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 9

Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Tobacco by Subgroups Eighth, Tenth, and Twelfth Graders, 1992

Percent who used daily in last thirty days

	Marijuana			Alcohol						Cigarettes						Smokeless Tobacco		
	Daily			Daily			5+ drinks[a]			One or more daily			Half-pack or more daily			Daily		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Totals	0.2	0.8	1.9	0.6	1.2	3.4	13.4	21.1	27.9	7.0	12.3	17.2	2.9	6.0	10.0	1.8	3.3	4.3
Sex:																		
Male	0.3	1.1	2.8	0.8	1.6	5.2	13.9	23.7	35.6	6.9	12.1	17.2	3.1	6.5	10.4	3.4	6.3	7.8
Female	0.1	0.4	1.0	0.4	0.8	1.6	12.8	18.6	20.3	7.2	12.4	16.7	2.7	5.1	9.2	0.3	0.1	0.5
College Plans:																		
None or under 4 yrs	1.1	2.3	3.5	2.2	3.2	5.3	26.4	31.8	32.8	20.1	25.5	28.1	10.8	15.3	19.1	5.6	8.5	7.4
Complete 4 yrs	0.1	0.4	1.2	0.4	0.8	2.6	11.5	18.9	26.0	5.1	9.5	12.9	1.7	4.0	6.5	1.2	1.9	3.3
Region:																		
Northeast	0.1	0.7	2.4	0.5	0.9	2.9	10.7	19.9	25.8	7.1	13.1	19.4	2.8	5.9	11.1	0.9	1.0	1.8
North Central	0.2	0.6	1.8	0.6	1.5	3.7	14.2	21.3	34.6	7.6	14.3	19.0	3.2	7.3	11.0	1.6	2.9	4.0
South	0.2	0.6	1.3	0.8	1.2	3.7	14.8	21.5	24.7	7.8	11.4	16.7	3.3	5.5	10.2	3.0	4.5	5.4
West	0.3	1.3	2.6	0.5	1.4	2.9	12.8	21.7	26.0	4.8	10.7	13.3	2.0	5.0	6.8	0.8	2.9	5.1
Population Density:																		
Large SMSA	0.1	0.5	1.9	0.6	1.2	3.4	12.5	19.3	25.5	6.3	11.7	16.6	2.3	5.2	9.9	0.6	1.6	2.0
Other SMSA	0.2	0.8	1.7	0.6	0.9	3.1	14.0	20.0	27.0	7.2	11.6	15.9	3.2	5.8	8.4	1.9	2.8	4.2
Non-SMSA	0.3	0.9	2.1	0.7	1.9	4.1	13.5	25.2	31.9	7.8	14.5	20.3	3.3	6.9	13.1	2.8	4.9	6.5
Parental Education[b]																		
1.0-2.0 (Low)	0.5	1.1	1.6	1.4	2.0	3.0	21.8	25.6	23.4	11.9	17.8	16.5	6.5	10.7	11.0	3.5	3.9	6.7
2.5-3.0	0.3	0.8	1.9	0.6	1.1	4.0	16.0	22.4	28.1	8.4	13.9	20.4	3.4	6.9	12.7	2.6	5.0	4.8
3.5-4.0	0.1	0.9	1.8	0.5	1.3	2.9	13.0	21.3	27.9	6.9	11.8	16.9	2.6	5.4	9.6	1.2	2.8	5.2
4.5-5.0	0.1	0.6	1.6	0.5	0.7	2.8	10.3	19.7	28.1	5.2	10.5	15.0	1.8	4.7	8.1	1.3	1.7	2.4
5.5-6.0 (High)	0.1	0.8	2.0	0.6	1.5	4.7	9.5	19.5	30.4	4.2	9.0	12.8	1.5	3.7	5.7	0.9	1.6	2.6

NOTE: See Table 8 for sample sizes.

[a] This measure refers to use of five or more drinks in a row in the past two weeks.

[b] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

- The number of high school seniors of both sexes who report using ***some illicit drug other than marijuana*** during the last year are not substantially different (16% for males vs. 14% for females; see Figure 12 in Chapter 5). Even if amphetamine use is excluded from the comparisons, the proportions of both sexes who report using some illicit drug other than marijuana during the year are not greatly different (12% of male seniors, 10% of female seniors). If one thinks of going beyond marijuana as an important threshold point in the sequence of illicit drug use, then fairly similar proportions of both sexes were willing to cross that threshold at least once during the year. However, on the average, the female "users" take fewer types of drugs and tend to use them with less frequency than their male counterparts.

- The use of ***anabolic steroids*** is heavily concentrated in the male population, with use among senior males at 2.1% in the past year compared to 0.1% among females. In eighth grade however, the differences are not so great (1.7% vs. 0.5%).

- Frequent use of ***alcohol*** tends to be disproportionately concentrated among males. ***Daily use***, for example, is reported by 5.2% of the senior males vs. only 1.6% of the senior females. Also, males are more likely than females to drink large quantities of alcohol in a single sitting; 36% of senior males report taking ***five or more drinks in a row*** in the prior two weeks vs. 20% of senior females. There is not quite such a large male-female difference in self-reported drunkenness, however (35% vs. 25%, respectively,within the last month) since, on average, females can take fewer drinks to become inebriated. These sex differences are observable at all three grade levels.

- In recent years, ***smoking rates*** among seniors have been very similar for males and females. Although equal numbers of both sexes report daily smoking in the past month, in 1992 slightly more males report smoking at the rate of ***half-pack or more per day*** in twelfth grade (10.4% for males vs. 9.2% for females). Males are more likely to be heavy smokers in the lower grades, as well.

- The use of ***smokeless tobacco*** is much more concentrated among males than the use of cigarettes. While 21% of the twelfth grade males reported some use in the prior month, only 2% of the females did. The same is true at eighth grade (13% vs. 2%) and tenth grade (18% vs. 2%). Put another way, males have quite high levels of use on smokeless tobacco, starting at a young age.

Differences Related to College Plans

Overall, students who say they probably or definitely will complete four years of college (referred to here as the "college-bound") have lower rates of illicit drug use than those who say they probably or definitely will not. (See Tables 6 – 9 and Figure 13 in Chapter 5). It

is interesting to note that the proportion of students expecting to complete college decreases as one goes up in grade level, even though the lower grades still contain 15%-20% who will eventually drop out of high school.

For any given drug, the differences between these two self-identified groups of college- or noncollege-bound students tend to be greatest in the eighth grade. This could reflect an earlier age of onset for the noncollege-bound, and/or the fact that fewer of the eventual dropouts have left school yet, thus increasing the differences in the lower grades.

- Annual ***marijuana*** use is reported by 19% of the college-bound seniors vs. 28% of the noncollege-bound, and it is reported by 6% of the college-bound vs. 18% of the noncollege-bound eighth graders.

- Among 1992 seniors who reported using ***any illicit drug other than marijuana*** (adjusted), 13% of the college-bound reported any such behavior in the prior year vs. 20% of the noncollege-bound.

- Frequent use of many of these illicit drugs shows even larger contrasts related to college plans (see Table 9). ***Daily marijuana*** use, for example, is more than twice as high among those seniors who do not plan to attend college (3.5%) as among the college-bound seniors (1.2%).

- Frequent alcohol use is also more prevalent among the noncollege-bound. For example, ***daily drinking*** is reported by 5.3% of the noncollege-bound seniors vs. 2.6% of the college-bound seniors. ***Binge drinking*** (five or more drinks in a row at least once during the preceding two weeks) is reported by 33% of the noncollege-bound seniors vs. 26% of the college-bound. On the other hand, there are practically no differences between the college-bound and noncollege-bound seniors in lifetime, annual, or monthly prevalence of alcohol use. It is not so much drinking, but rather frequent and heavy drinking, which tends to differentiate these two groups.

- For annual ***steroid*** use, there is an appreciable difference between the noncollege-bound seniors (2.1% annual prevalence) and the college-bound seniors (0.8%). There is a similar pattern at all three grade levels.

- By far, the largest and most dramatic difference in substance use between the college- and noncollege-bound involves ***cigarette*** smoking, with 6.5% of the college-bound seniors smoking half-a-pack or more daily compared with 19% of the noncollege-bound seniors. The proportional differences are even larger in the lower grades.

- For ***smokeless tobacco*** much the same pattern exists. Use in the prior 30 days is twice as high among the noncollege bound (18% vs 9%) and the ratio is even higher in the lower grades.

Regional Differences

Notable regional differences in rates of illicit drug use among high school seniors may be observed in Tables 6 through 9. See Figure 5 for a ***regional division*** map of the states included in the four regions of the country as defined by the Census Bureau.

- The highest rate is in the West, where 31% of seniors say they have ***used an illicit drug in the past year***, closely followed by the Northeast (29%) and the North Central (28%). The South is the lowest, with 24% having used any illicit drug during the year (see Figure 14a in Chapter 5).

- There are very modest, but consistent regional variations in terms of the percentage of seniors using some ***illicit drug other than marijuana*** (adjusted) in the past year. The West leads all regions for this measure (15.8%); the North Central is next (15.5%), followed by the Northeast (14.7%), and the South (14.0%).

- In the past, regional differences in ***cocaine*** use have been the largest observed. The West has tended to rank relatively high in the use of an ***illicit drug other than marijuana***, due in part to a high level of cocaine use. Currently, the annual prevalence of ***cocaine*** and ***crack*** is highest in the West for all three grade levels.

- Other specific illicit substances vary in the extent to which they show regional variation as Table 7 illustrates for the annual prevalence measure. In addition to having the highest usage levels for overall ***cocaine*** use, as well as for ***crack*** and ***other cocaine***, at all three grade levels, the West also ranks first among the regions in twelfth graders' use of ***marijuana***, ***hallucinogens***, and ***LSD*** specifically. In fact, the West is highest on the use of these drugs at all three grade levels.

- There is a large regional difference in the use of ***ice***, not included in Table 7. Again, the highest rate among seniors is in the West at 2.6% annual prevalence, followed by the North Central (1.1%), the South (1.0%), and the Northeast (0.9%).

- The South shows the lowest rates of use among seniors for ***marijuana***, ***hallucinogens*** (unadjusted), ***LSD***, and ***opiates other than heroin***, though this is not always true in grades eight and ten. It also has the highest rate of ***tranquilizer*** use in all grades.

- The North Central stands out for having high rates among seniors of ***stimulant*** use, ***smoking***, and ***drinking***.

FIGURE 5

States Included in the Four Regions of the Country

These are the four major regions of the country as defined by the U.S. Bureau of the Census.

- The annual prevalence of ***alcohol*** use among seniors is somewhat lower in the South and West than in the Northeast and North Central regions. ***Binge drinking*** in twelfth grade is considerably higher in the North Central region than the others.

- The North Central and Northeast regions also have higher rates of ***daily smoking*** in twelfth grade (19%) than the South and the West (17% and 13%, respectively). The same pattern is true for the tenth grade students. However, in eighth grade, only the students in the West are below average (4.8% vs. 7.1%-7.8% in the three other regions).

- The use of ***smokeless tobacco*** is lowest in the Northeast in tenth and twelfth grades and lower than average in both the Northeast and the West in eighth grade. In general, use is highest in the South, particularly in eighth grade.

Differences Related to Population Density

Three levels of population density (or urbanicity) have been distinguished for analytical purposes: (1) large SMSA's, which are the sixteen largest Standard Metropolitan Statistical Areas in the 1980 Census; (2) other SMSA's, which are the remaining Standard Metropolitan Statistical Areas; and (3) non-SMSA's, which are the sampling areas not designated as metropolitan by the Census. See Appendix 2 for further detail.

In general, the differences in the use of most illicit drugs across these different sizes of community are small, reflecting how widely illicit drug use has diffused through the population. (See Tables 6 through 9.)

- In twelfth grade, annual ***marijuana*** use is just a bit lower in the nonurban areas (21%) than in the large metropolitan areas (22%), or in the other metropolitan areas (23%).

- On the other hand, ***stimulant*** use is somewhat higher among tenth and twelfth grade students in nonurban areas than in the metropolitan areas.

- Among tenth and twelfth graders, alcohol use also is inversely related to community size. For example, among twelfth graders, the proportion reporting ***binge drinking*** was 26% in the large SMSA's, 27% in the other SMSA's, and 32% in the non-SMSA's.

- Both ***cigarette*** use and ***smokeless tobacco*** use are highest in the nonurban areas (Table 9) for all three grade levels. The rates of differences are particularly large for smokeless tobacco–6%, 11%, and 17% among twelfth graders in large metropolitan areas, smaller metropolitan areas, and non-metropolitan areas saying they used smokeless tobacco in the prior month. The comparable rates for

cigarette smoking in the prior month are 26%, 27%, and 32% among seniors.

Differences Related to Parental Education

The best measure of family socioeconomic status available in the study is an index of parental education, which is based on the average of the educational levels reported for both parents by the respondent (or on the data for one parent, if data for both are not available). The scale values on the original questions are: (1) completed grade school or less, (2) some high school, (3) completed high school, (4) some college, (5) completed college, and (6) graduate or professional school after college. The average educational level obtained by students' parents has been rising over the years. Tables 6 through 9 give the distributions for 1992.

- By senior year there is rather little association with family socioeconomic status for ***most drugs***. This again speaks to the extent to which illicit drug use has permeated all social strata in this society.

- On the other hand, an examination of Table 8 shows that in eighth grade, the lowest socioeconomic group does have a somewhat higher rate of use of a number of drugs–particularly ***cigarettes***, and ***marijuana***, but to a lesser degree ***hallucinogens, LSD, cocaine, crack, heroin, stimulants,*** and ***tranquilizers***. Few of these relationships are ordinal: rather, the bottom category, or sometimes two categories, stand out as having higher usages rates than the others.

  The diminished socioeconomic differences by twelfth grade could be explained by the upper- and middle-class youngsters "catching up" with their more precocious peers from poor backgrounds. The difference may also be explained by the impact of dropping out, which is correlated both with social class and drug use. Only a panel study following eighth graders, like the one being launched in 1993 as a part of this study, will permit us to determine which of these alternative explanations is correct.

- One exception to the rule that the relationships with social class are not ordinal is seen among eighth graders' reports for ***binge drinking*** in the prior two weeks. Rates rise consistently from 10% in the top economic status category to 22% in the bottom one. For ***daily drinking*** among eighth graders there is also a fairly strong negative association which does not appear for the other grades.

- ***Daily smoking*** also comes close to having an ordinal relationship in all three grade levels, although the association is strongest in eighth grade, where only 4% of the top stratum are current daily smokers vs. 12% of the bottom stratum.

- The use of ***smokeless tobacco*** also is inversely correlated with parental education at all three grade levels. Thus, tobacco use in general now bears a strong negative relationship to social class among young people.

Racial/Ethnic Differences

Racial/ethnic comparisons for blacks, Hispanics, and whites were added to this monograph series for the first time in 1991.[13] Although the design of this project did not include an oversampling of any minority groups, the large overall sample sizes at each grade level do produce fair numbers of black and Hispanic respondents each year. In the tabular data discussed here, we combine two years of data to increase the reliability of the estimates. We caution the reader that the sampling error of differences between groups is likely to be larger than would be true for other demographic and background variables such as sex or college plans, because blacks and Hispanics are more likely to be clustered by school. Table 10 gives the lifetime, annual, 30-day, and daily use statistics for the three racial/ethnic groups at all three grade levels, along with the numbers of cases upon which the estimates are based.

- Several general points can be derived from Table 10. First, for virtually ***all drugs***, licit and illicit, black *seniors* have reported lifetime and annual prevalence rates which are lower–sometimes dramatically lower–than those for white or Hispanic seniors. This is mostly true for the 30-day and daily prevalence statistics, as well, although there are a few exceptions.

- Second, the same can be said for black students in eighth and tenth grades, which means that the low usage rates for blacks in twelfth grade almost certainly are not due to differential dropout rates and/or a differential degree of association between dropping out and using drugs among the three racial/ethnic groups.

- The third general point is that whites in the twelfth grade have the highest lifetime and annual prevalence rates for many drugs, including: ***inhalants***, ***hallucinogens***, ***LSD*** specifically, ***opiates other than heroin***, ***amphetamines***, ***barbiturates***, ***tranquilizers***, and ***cigarettes***. Not all of these differences occur at lower grade levels.

- Hispanics taken as a group, have the highest lifetime and annual prevalence rates in senior year for some particularly dangerous classes of drugs. These include ***cocaine, crack, other cocaine, heroin,*** and ***steroids***. Their rate of ***crack*** use is particularly high, compared to the other two racial/ethnic groups. Further, it should be remembered that

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[13]We recognize that the Hispanic category is a broad one, encompassing people with various Latin American and Caribbean origins, but for the purposes of this monograph the sample sizes unfortunately are too small to differentiate among them. For a more complete treatment of racial/ethnic differences, in which additional subgroups are distinguished and males and females are examined separately within each racial/ethnic category, see Bachman, J.G., Wallace, J.M., Jr., O'Malley, P.M., Johnston, L.D., Kurth, C.L., & Neighbors, H.W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976-1989. *American Journal of Public Health, 81*, 372-377.

Hispanics have a considerably higher dropout rate, based on Census Bureau statistics, than whites or blacks, which would tend to diminish the differences observable in senior year.

Indeed, an examination of the racial/ethnic comparisons at lower grade levels shows Hispanics having higher rates of use not only on all the drugs on which they have the highest prevalence in twelfth grade but on a number of other drugs, as well. For example, in eighth grade 19% of Hispanic students report ever having used ***marijuana***, compared to 10% of white students and 7% of black students. For ***hallucinogens*** the eighth grade lifetime prevalence for Hispanics, whites, and blacks is 6%, 4%, and 1%; for ***tranquilizers***, 6%, 4%, and 2%; for ***cigarettes***, 51%, 46%, and 32%. In other words, in eighth grade–before dropout rates begin to accelerate–Hispanics have the highest rate of use of nearly all the drugs; whereas by twelfth grade, whites are highest in most. Certainly the considerably higher dropout rate among Hispanics could explain most or all of this shift, and may be the most plausible explanation. Another explanation worth considering is that Hispanics may tend to start using drugs younger, but that whites catch up to, and pass them at older ages. These explanations are not mutually exclusive, of course, and to some degree, both may be true.

- Looking at the daily use figures, we find exceptionally large absolute and proportional differences between the three groups in their rates of ***daily cigarette smoking***. Among seniors, whites have a 21% daily smoking rate, Hispanics 13% (which may be low, in part, because of their higher dropout rate), and blacks only 4%. In fact, blacks have much lower smoking rates at all grade levels.

- ***Daily drinking*** among black seniors is only about half that for whites and Hispanics, and ***daily marijuana*** use less than one-third the rate of the comparison groups.

- Recent ***binge drinking*** is also lowest among blacks at all grade levels, although the proportional difference is greatest in twelfth grade where 32% of whites report binge drinking and 31% of Hispanics, compared with only 11% of blacks. In eighth grade, Hispanics clearly have the highest rate at 20%, compared with 13% for whites and 10% for blacks.

TABLE 10

Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Types of Drugs Eighth, Tenth, and Twelfth Graders

NOTE: Percents represent averages of 1991 and 1992 data[a]

	Marijuana			Inhalants[b]			Hallucinogens			LSD			Cocaine		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Lifetime:															
White	9.9	23.0	36.3	18.4	18.1	19.3	3.6	7.2	10.8	3.0	6.7	10.1	2.3	3.7	7.0
Black	7.4	16.2	23.3	10.3	8.6	6.8	0.9	0.8	1.1	0.7	0.7	0.9	1.0	1.3	2.4
Hispanic	19.0	26.9	40.7	19.6	14.1	16.6	6.1	6.0	9.3	5.3	5.2	8.4	5.9	6.7	12.1
Annual:															
White	6.4	17.0	24.9	10.1	8.3	7.2	2.2	4.9	7.0	1.9	4.6	6.5	1.2	2.1	3.3
Black	4.1	7.6	11.5	4.4	3.6	2.5	0.7	0.2	0.7	0.5	0.2	0.6	0.7	0.6	1.3
Hispanic	11.9	18.9	24.7	10.4	6.4	6.1	3.8	3.6	4.7	3.3	3.2	4.1	3.1	3.7	5.3
30-Day:															
White	3.3	9.0	14.1	4.7	2.9	2.4	0.8	2.0	2.5	0.7	1.9	2.2	0.5	0.7	1.3
Black	2.0	3.6	6.1	2.4	2.0	1.5	0.4	0.2	0.3	0.3	0.1	0.3	0.4	0.1	0.7
Hispanic	6.4	10.4	12.7	5.5	3.0	2.5	1.9	1.4	1.5	1.7	1.2	1.2	1.7	1.1	1.9
Daily:															
White	0.2	0.9	2.1	—	—	—	—	—	—	—	—	—	—	—	—
Black	0.1	0.3	0.6	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	0.3	0.8	2.1	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: The following sample sizes are based on the 1991 and 1992 surveys combined.

Sample Sizes:	8th Grade	10th Grade	12th Grade
White	21900	19600	21500
Black	4200	3900	3900
Hispanic	3400	2600	2600

(Table continued on next page)

TABLE 10 (cont.)

Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Types of Drugs Eighth, Tenth, and Twelfth Graders

NOTE: Percents represent averages of 1991 and 1992 data[a]

	Crack			Other Cocaine[c]			Heroin			Other Opiates			Stimulants[d]			Barbiturates[d]		
Grade	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Lifetime																		
White	1.2	1.6	2.7	2.0	3.4	6.2	1.2	1.2	1.1	—	—	7.4	11.2	14.7	16.7	—	—	6.5
Black	0.6	0.7	1.1	0.8	1.1	2.1	0.7	0.5	0.6	—	—	2.0	6.5	5.6	4.8	—	—	2.2
Hispanic	3.1	2.4	5.7	5.2	6.2	10.4	2.2	1.4	1.7	—	—	4.8	11.2	11.7	12.6	—	—	5.6
Annual																		
White	0.7	0.9	1.3	0.9	1.9	3.0	0.6	0.6	0.5	—	—	4.1	6.8	9.4	8.8	—	—	3.5
Black	0.4	0.3	0.6	0.6	0.5	1.0	0.4	0.3	0.4	—	—	0.9	3.3	2.8	2.3	—	—	1.1
Hispanic	1.9	1.5	2.7	2.6	3.4	4.3	1.4	0.7	0.9	—	—	2.1	7.2	6.2	6.1	—	—	2.2
30-Day																		
White	0.3	0.3	0.6	0.4	0.6	1.1	0.3	0.2	0.2	—	—	1.3	3.0	3.9	3.4	—	—	1.4
Black	0.3	0.1	0.4	0.3	0.1	0.6	0.1	0.1	0.3	—	—	0.5	1.5	1.4	0.9	—	—	0.5
Hispanic	1.0	0.5	1.1	1.4	0.9	1.5	0.7	0.2	0.6	—	—	0.7	3.6	2.8	1.6	—	—	0.7
Daily																		
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page)

TABLE 10 (cont.)

Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Types of Drugs Eighth, Tenth, and Twelfth Graders

NOTE: Percents represent averages of 1991 and 1992 data[a]

	Tranquilizers[d]			Alcohol			Been Drunk[e]			5+ Drinks			Cigarettes			Smokeless Tobacco[f]			Steroids[e]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Lifetime:																					
White	3.9	6.6	7.3	71.7	84.8	89.7	27.3	51.9	69.7	—	—	—	45.8	57.3	65.7	11.6	15.2	—	1.8	1.7	2.1
Black	2.2	2.0	2.5	64.0	78.0	80.1	21.3	36.5	36.7	—	—	—	32.3	40.9	44.4	4.6	6.3	—	1.5	1.2	0.8
Hispanic	5.6	6.9	6.5	71.9	83.6	89.9	32.5	49.5	65.9	—	—	—	51.0	54.7	64.8	6.1	8.3	—	2.2	2.0	3.2
Annual:																					
White	2.0	4.0	3.7	56.3	74.1	80.2	18.9	42.2	57.7	—	—	—	—	—	—	—	—	—	1.1	1.0	1.4
Black	0.9	0.9	1.3	43.4	60.6	63.6	12.0	22.6	22.9	—	—	—	—	—	—	—	—	—	0.7	0.7	0.6
Hispanic	2.7	2.9	2.4	58.1	72.0	80.3	21.7	37.4	45.9	—	—	—	—	—	—	—	—	—	1.2	1.2	1.9
30-Day:																					
White	0.7	1.5	1.3	26.6	44.1	56.9	7.7	21.6	34.7	—	—	—	16.2	24.1	31.8	8.3	11.4	—	0.5	0.5	0.7
Black	0.4	0.3	0.5	18.6	30.2	32.0	5.4	9.4	11.0	—	—	—	5.3	6.6	8.8	1.8	2.9	—	0.3	0.5	0.6
Hispanic	1.0	1.3	0.9	31.0	41.0	53.8	9.9	16.2	27.2	—	—	—	16.7	18.3	25.0	4.2	6.2	—	0.5	0.6	1.0
Daily:																					
White	—	—	—	0.5	1.3	3.6	0.1	0.3	0.8	12.7	23.2	32.1	7.7	14.5	20.5	2.0	3.8	—	—	—	—
Black	—	—	—	0.5	0.9	1.9	*	0.5	0.6	9.6	15.0	11.3	1.4	2.8	4.3	0.3	0.5	—	—	—	—
Hispanic	—	—	—	1.1	1.6	3.6	0.1	0.3	1.0	20.4	22.9	31.0	7.3	8.4	12.5	0.8	1.1	—	—	—	—

NOTE: '—' indicates data not available.

[a]Data from two years have been combined to increase subgroup sample sizes.
[b]12th grade only: Data based on five questionnaire forms. N is five-sixths of N indicated.
[c]12th grade only: Data based on four questionnaire forms. N is four-sixths of N indicated.
[d]Only drug use which was not under a doctor's orders is included here.
[e]12th grade only: Data based on two questionnaire forms. N is two-sixths of N indicated.
[f]8th and 10th grades only: Data based on one questionnaire form. N is one-half of N indicated.

Chapter 5

TRENDS IN DRUG USE

This section summarizes trends in drug use among high school seniors, comparing the eighteen graduating classes of 1975 through 1992. As in the previous section, the outcomes to be discussed include measures of lifetime use, use during the past year, use during the past month, and daily use. In addition, trends are compared for the key demographic subgroups discussed earlier and trends in noncontinuation rates are also examined.

For the first time this year, trends can also be presented for grades 8 and 10 based on a one-year interval. This raises the possibility that a more complex trend story will be told, insofar as different grade levels might have divergent trends; and that is exactly what happened in the 1991-1992 interval.

TRENDS IN PREVALENCE 1975-1992: TWELFTH GRADERS

Tables 11 through 14 give trends in lifetime, annual, 30-day, and daily prevalence of use for all drugs mentioned in this chapter, based on the past eighteen graduating classes. Figures 6 through 9 provide graphic descriptions of these trends.

- The years 1978 and 1979 marked the crest of a long and dramatic rise in ***marijuana*** use among American high school students. As Tables 11 through 13 and Figure 9a illustrate, annual and 30-day prevalence of marijuana use leveled between 1978 and 1979, following a steady rise in the preceding years. In 1980 both annual and 30-day prevalence statistics dropped for the first time and continued to decline every year, except in 1985 when there was a brief pause. In 1992 annual use continued to decline significantly, and at 22% now stands 29 percentage points below its all-time high of 51% in 1979. Thirty-day use, also dropped significantly from the 1991 level of 13.8% to 11.9% in 1992. Lifetime prevalence began to drop in 1981, though more gradually.[14] Today a third of all seniors have tried marijuana before leaving high school, down from a peak of 60% in 1980. As we will discuss in Chapter 8, there have been substantial changes in the attitudes and beliefs that young people hold in relation to marijuana; these changes appear to account for much of this long term decline in use.

- Of greater importance is the even sharper downward trend which has occurred for active ***daily marijuana use*** (Table 14). Between 1975 and 1978 there was an almost two-fold increase in daily use. The proportion reporting daily use in the class of 1975 (6%) came as a surprise to many; and then that proportion rose rapidly, so that by 1978

[14]Lifetime use declines more gradually than the annual or 30-day statistics because it reflects changes in initiation rates only, whereas annual and 30-day reflect both changes in initiation rates *and* noncontinuation rates.

TABLE 11
Trends in Lifetime Prevalence of Various Types of Drugs for Twelfth Graders

	Percent ever used																	
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91-'92 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	
Any Illicit Drug[a,b]	55.2	58.3	61.6	64.1	65.1	65.4	65.6	64.4	62.9	61.6	60.6	57.6	56.6	53.9	50.9	47.9	44.1	40.7	-3.4ss
Any Illicit Drug Other Than Marijuana[b,c]	36.2	35.4	35.8	36.5	37.4	38.7	42.8	41.1	40.4	40.3	39.7	37.7	35.8	32.5	31.4	29.4	26.9	25.1	-1.8s
Marijuana/Hashish	47.3	52.8	56.4	59.2	60.4	60.3	59.5	58.7	57.0	54.9	54.2	50.9	50.2	47.2	43.7	40.7	36.7	32.6	-4.1sss
Inhalants[d]	—	10.3	11.1	12.0	12.7	11.9	12.3	12.8	13.6	14.4	15.4	15.9	17.0	16.7	17.6	18.0	17.6	16.6	-1.0
Inhalants Adjusted[e]	—	—	—	—	18.2	17.3	17.2	17.7	18.2	18.0	18.1	20.1	18.6	17.5	18.6	18.5	18.0	17.0	-1.0
Amyl & Butyl Nitrites[f,g]	—	—	—	—	11.1	11.1	10.1	9.8	8.4	8.1	7.9	8.6	4.7	3.2	3.3	2.1	1.6	1.5	-0.1
Hallucinogens	16.3	15.1	13.9	14.3	14.1	13.3	13.3	12.6	11.9	10.7	10.3	9.7	10.3	8.9	9.4	9.4	9.6	9.2	-0.4
Hallucinogens Adjusted[h]	—	—	—	—	17.7	15.6	15.3	14.3	13.6	12.3	12.1	11.9	10.6	9.2	9.9	9.7	10.0	9.4	-0.6
LSD	11.3	11.0	9.8	9.7	9.5	9.3	9.8	9.6	8.9	8.0	7.5	7.2	8.4	7.7	8.3	8.7	8.8	8.6	-0.2
PCP[f,g]	—	—	—	—	12.8	9.6	7.8	6.0	5.6	5.0	4.9	4.8	3.0	2.9	3.9	2.8	2.9	2.4	-0.5
Cocaine	9.0	9.7	10.8	12.9	15.4	15.7	16.6	16.0	16.2	16.1	17.3	16.9	15.2	12.1	10.3	9.4	7.8	6.1	-1.7ss
Crack[i]	—	—	—	—	—	—	—	—	—	—	—	—	5.4	4.8	4.7	3.5	3.1	2.6	-0.5
Other cocaine[i]	—	—	—	—	—	—	—	—	—	—	—	—	14.0	12.1	8.5	8.6	7.0	5.3	-1.7sss
Heroin	2.2	1.8	1.8	1.6	1.1	1.1	1.1	1.2	1.2	1.3	1.2	1.1	1.2	1.1	1.3	1.3	0.9	1.2	+0.3
Other opiates[k]	9.0	9.6	10.3	9.9	10.1	9.8	10.1	9.6	9.4	9.7	10.2	9.0	9.2	8.6	8.3	8.3	6.6	6.1	-0.5
Stimulants[b,k]	22.3	22.6	23.0	22.9	24.2	26.4	32.2	27.0	26.9	27.9	26.2	23.4	21.6	19.8	19.1	17.5	15.4	13.9	-1.5s
Crystal Meth. (Ice)[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.7	3.3	2.9	-0.4
Sedatives[k,m]	18.2	17.7	17.4	16.0	14.6	14.9	16.0	15.2	14.4	13.3	11.8	10.4	8.7	7.8	7.4	7.5	6.7	6.1	-0.6
Barbiturates[k]	16.9	16.2	15.6	13.7	11.8	11.0	11.3	10.3	9.9	9.9	9.2	8.4	7.4	6.7	6.5	6.8	6.2	5.5	-0.7
Methaqualone[k,m]	8.1	7.8	8.5	7.9	8.3	9.5	10.6	10.7	10.1	8.3	6.7	5.2	4.0	3.3	2.7	2.3	1.3	1.6	+0.3
Tranquilizers[k]	17.0	16.8	18.0	17.0	16.3	15.2	14.7	14.0	13.3	12.4	11.9	10.9	10.9	9.4	7.6	7.2	7.2	6.0	-1.2s
Alcohol	90.4	91.9	92.6	93.1	93.0	93.2	92.6	92.8	92.6	92.6	92.2	91.3	92.2	92.0	90.7	89.5	88.0	87.5	-0.5
Been Drunk[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65.4	63.4	-2.0
Cigarettes	73.6	75.4	75.7	75.3	74.0	71.0	71.0	70.1	70.6	69.7	68.8	67.6	67.2	66.4	65.7	64.4	63.1	61.8	-1.3
Smokeless Tobacco[m]	—	—	—	—	—	—	—	—	—	—	—	31.4	32.2	30.4	29.2	—	—	32.4	—
Steroids[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	2.9	2.1	2.1	0.0

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

Footnotes for Table 11–Table 14

[a] Use of "any illicit drugs" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.

[b] Beginning in 1982 the question about stimulant use (i.e. amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

[c] Use of "other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.

[d] Data based on four questionnaire forms in 1976-1988; N is four-fifths of N indicated. Data based on five questionnaire forms in 1989-1992; N is five-sixths of N indicated.

[e] Adjusted for underreporting of amyl and butyl nitrites.

[f] Data based on a single questionnaire form; N is one-fifth of N indicated in 1979-1988 and one-sixth of N indicated in 1989-1992.

[g] Question text changed slightly in 1987.

[h] Adjusted for underreporting of PCP.

[i] Data based on a single questionnaire form in 1986; N is one-fifth of N indicated. Data based on two questionnaire forms in 1987-1989; N is two-fifths of N indicated in 1987-1988 and two-sixths of N indicated in 1989. Data based on six questionnaire forms in 1990-1992.

[j] Data based on a single questionnaire form in 1987-1989; N is one-fifth of N indicated in 1987-1988 and one-sixth of N indicated in 1989. Data based on four questionnaire forms in 1990-1992; N is four-sixths of N indicated.

[k] Only drug use which was not under a doctor's orders is included here.

[l] Data based on two questionnaire forms; N is two-sixths of N indicated. Steroid data based on a single questionnaire form in 1989-1990.

[m] Data based on five questionnaire forms in 1975-1988, six questionnaire forms in 1989, and one questionnaire form in 1990-1992. N is one-sixth of N indicated in 1990-1992. Smokeless tobacco was always included in only one questionnaire form.

TABLE 12
Trends in Annual Prevalence of Various Types of Drugs for Twelfth Graders

Percent who used in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	
Any Illicit Drug[a,b]	45.0	48.1	51.1	53.8	54.2	53.1	52.1	49.4	47.4	45.8	46.3	44.3	41.7	38.5	35.4	32.5	29.4	27.1	–2.3ss
Any Illicit Drug Other Than Marijuana[b,c]	26.2	25.4	26.0	27.1	28.2	30.4	34.0	30.1	28.4	28.0	27.4	25.9	24.1	21.1	20.0	17.9	16.2	14.9	–1.3
Marijuana/Hashish	40.0	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6	38.8	36.3	33.1	29.6	27.0	23.9	21.9	–2.0s
Inhalants[d]	—	3.0	3.7	4.1	5.4	4.6	4.1	4.5	4.3	5.1	5.7	6.1	6.9	6.5	5.9	6.9	6.6	6.2	–0.4
Inhalants Adjusted[e]	—	—	—	—	8.9	7.9	6.1	6.6	6.2	7.2	7.5	8.9	8.1	7.1	6.9	7.5	6.9	6.4	–0.5
Amyl/Butyl Nitrites[f,g]	—	—	—	—	6.5	5.7	3.7	3.6	3.6	4.0	4.0	4.7	2.6	1.7	1.7	1.4	0.9	0.5	–0.4
Hallucinogens	11.2	9.4	8.8	9.6	9.9	9.3	9.0	8.1	7.3	6.5	6.3	6.0	6.4	5.5	5.6	5.9	5.8	5.9	+0.1
Hallucinogens Adjusted[h]	—	—	—	—	11.8	10.4	10.1	9.0	8.3	7.3	7.6	7.6	6.7	5.8	6.2	6.0	6.1	6.2	+0.1
LSD	7.2	6.4	5.5	6.3	6.6	6.5	6.5	6.1	5.4	4.7	4.4	4.5	5.2	4.8	4.9	5.4	5.2	5.6	+0.4
PCP[f,g]	—	—	—	—	7.0	4.4	3.2	2.2	2.6	2.3	2.9	2.4	1.3	1.2	2.4	1.2	1.4	1.4	0.0
Cocaine	5.6	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1	12.7	10.3	7.9	6.5	5.3	3.5	3.1	–0.4
Crack[i]	—	—	—	—	—	—	—	—	—	—	—	4.1	3.9	3.1	3.1	1.9	1.5	1.5	0.0
Other cocaine[j]	—	—	—	—	—	—	—	—	—	—	—	—	9.8	7.4	5.2	4.6	3.2	2.6	–0.6s
Heroin	1.0	0.8	0.8	0.8	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.4	0.6	+0.2
Other opiates[k]	5.7	5.7	6.4	6.0	6.2	6.3	5.9	5.3	5.1	5.2	5.9	5.2	5.3	4.6	4.4	4.5	3.5	3.3	–0.2
Stimulants[b,k]	16.2	15.8	16.3	17.1	18.3	20.8	26.0	20.3	17.9	17.7	15.8	13.4	12.2	10.9	10.8	9.1	8.2	7.1	–1.1s
Crystal Meth. (Ice)[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.4	1.3	–0.1
Sedatives[k,m]	11.7	10.7	10.8	9.9	9.9	10.3	10.5	9.1	7.9	6.6	5.8	5.2	4.1	3.7	3.7	3.6	3.6	2.9	–0.7
Barbiturates[k]	10.7	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	4.6	4.2	3.6	3.2	3.3	3.4	3.4	2.8	–0.6
Methaqualone[k,m]	5.1	4.7	5.2	4.9	5.9	7.2	7.5	6.8	5.4	3.8	2.8	2.1	1.5	1.3	1.3	0.7	0.5	0.6	+0.1
Tranquilizers[k]	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	6.1	5.8	5.5	4.8	3.8	3.5	3.6	2.8	–0.8s
Alcohol	84.8	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	85.6	84.5	85.7	85.3	82.7	80.6	77.7	76.8	–0.9
Been Drunk[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.7	50.3	–2.4
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco[m]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	1.7	1.4	1.1	–0.3

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

See Table 11 for relevant footnotes.

TABLE 13
Trends in Thirty-Day Prevalence of Various Types of Drugs for Twelfth Graders

Percent who used in last thirty days

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91-'92 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	
Any Illicit Drug[a,b]	30.7	34.2	37.6	38.9	38.9	37.2	36.9	32.5	30.5	29.2	29.7	27.1	24.7	21.3	19.7	17.2	16.4	14.4	-2.0ss
Any Illicit Drug Other Than Marijuana[b,c]	15.4	13.9	15.2	15.1	16.8	18.4	21.7	17.0	15.4	15.1	14.9	13.2	11.6	10.0	9.1	8.0	7.1	6.3	-0.8
Marijuana/Hashish	27.1	32.2	35.4	37.1	36.5	33.7	31.6	28.5	27.0	25.2	25.7	23.4	21.0	18.0	16.7	14.0	13.8	11.9	-1.9s
Inhalants[d]	—	0.9	1.3	1.5	1.7	1.4	1.5	1.5	1.7	1.9	2.2	2.5	2.8	2.6	2.3	2.7	2.4	2.3	-0.1
Inhalants Adjusted[e]	—	—	—	—	3.2	2.7	2.5	2.5	2.5	2.6	3.0	3.2	3.5	3.0	2.7	2.9	2.6	2.5	-0.1
Amyl/Butyl Nitrites[f,g]	—	—	—	—	2.4	1.8	1.4	1.1	1.4	1.4	1.6	1.3	1.3	0.6	0.6	0.6	0.4	0.3	-0.1
Hallucinogens	4.7	3.4	4.1	3.9	4.0	3.7	3.7	3.4	2.8	2.6	2.5	2.5	2.5	2.2	2.2	2.2	2.2	2.1	-0.1
Hallucinogens Adjusted[h]	—	—	—	—	5.3	4.4	4.5	4.1	3.5	3.2	3.8	3.5	2.8	2.3	2.9	2.3	2.4	2.3	-0.1
LSD	2.3	1.9	2.1	2.1	2.4	2.3	2.5	2.4	1.9	1.5	1.6	1.7	1.8	1.8	1.8	1.9	1.9	2.0	+0.1
PCP[f,g]	—	—	—	—	2.4	1.4	1.4	1.0	1.3	1.0	1.6	1.3	0.6	0.3	1.4	0.4	0.5	0.6	+0.1
Cocaine	1.9	2.0	2.9	3.9	5.7	5.2	5.8	5.0	4.9	5.8	6.7	6.2	4.3	3.4	2.8	1.9	1.4	1.3	-0.1
Crack[i]	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.6	1.4	0.7	0.7	0.6	-0.1
Other cocaine[j]	—	—	—	—	—	—	—	—	—	—	—	—	4.1	3.2	1.9	1.7	1.2	1.0	-0.2
Heroin	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	+0.1
Other opiates[k]	2.1	2.0	2.8	2.1	2.4	2.4	2.1	1.8	1.8	1.8	2.3	2.0	1.8	1.6	1.6	1.5	1.1	1.2	+0.1
Stimulants[b,k]	8.5	7.7	8.8	8.7	9.9	12.1	15.8	10.7	8.9	8.3	6.8	5.5	5.2	4.6	4.2	3.7	3.2	2.8	-0.4
Crystal Meth. (Ice)[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.6	0.5	-0.1
Sedatives[k,m]	5.4	4.5	5.1	4.2	4.4	4.8	4.6	3.4	3.0	2.3	2.4	2.2	1.7	1.4	1.6	1.4	1.5	1.2	-0.3
Barbiturates[k]	4.7	3.9	4.3	3.2	3.2	2.9	2.6	2.0	2.1	1.7	2.0	1.8	1.4	1.2	1.4	1.3	1.4	1.1	-0.3
Methaqualone[k,m]	2.1	1.6	2.3	1.9	2.3	3.3	3.1	2.4	1.8	1.1	1.0	0.8	0.6	0.5	0.6	0.2	0.2	0.4	+0.2
Tranquilizers[k]	4.1	4.0	4.6	3.4	3.7	3.1	2.7	2.4	2.5	2.1	2.1	2.1	2.0	1.5	1.3	1.2	1.4	1.0	-0.4s
Alcohol	68.2	68.3	71.2	72.1	71.8	72.0	70.7	69.7	69.4	67.2	65.9	65.3	66.4	63.9	60.0	57.1	54.0	51.3	-2.7s
Been Drunk[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.6	29.9	-1.7
Cigarettes	36.7	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	28.7	28.6	29.4	28.3	27.8	-0.5
Smokeless Tobacco[m]	—	—	—	—	—	—	—	—	—	—	—	11.5	11.3	10.3	8.4	—	—	11.4	—
Steroids[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	1.0	0.8	0.6	-0.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

See Table 11 for relevant footnotes.

TABLE 14
Trends in Thirty-Day Prevalence of Daily Use of Various Types of Drugs for Twelfth Graders

Percent who used daily in last thirty days

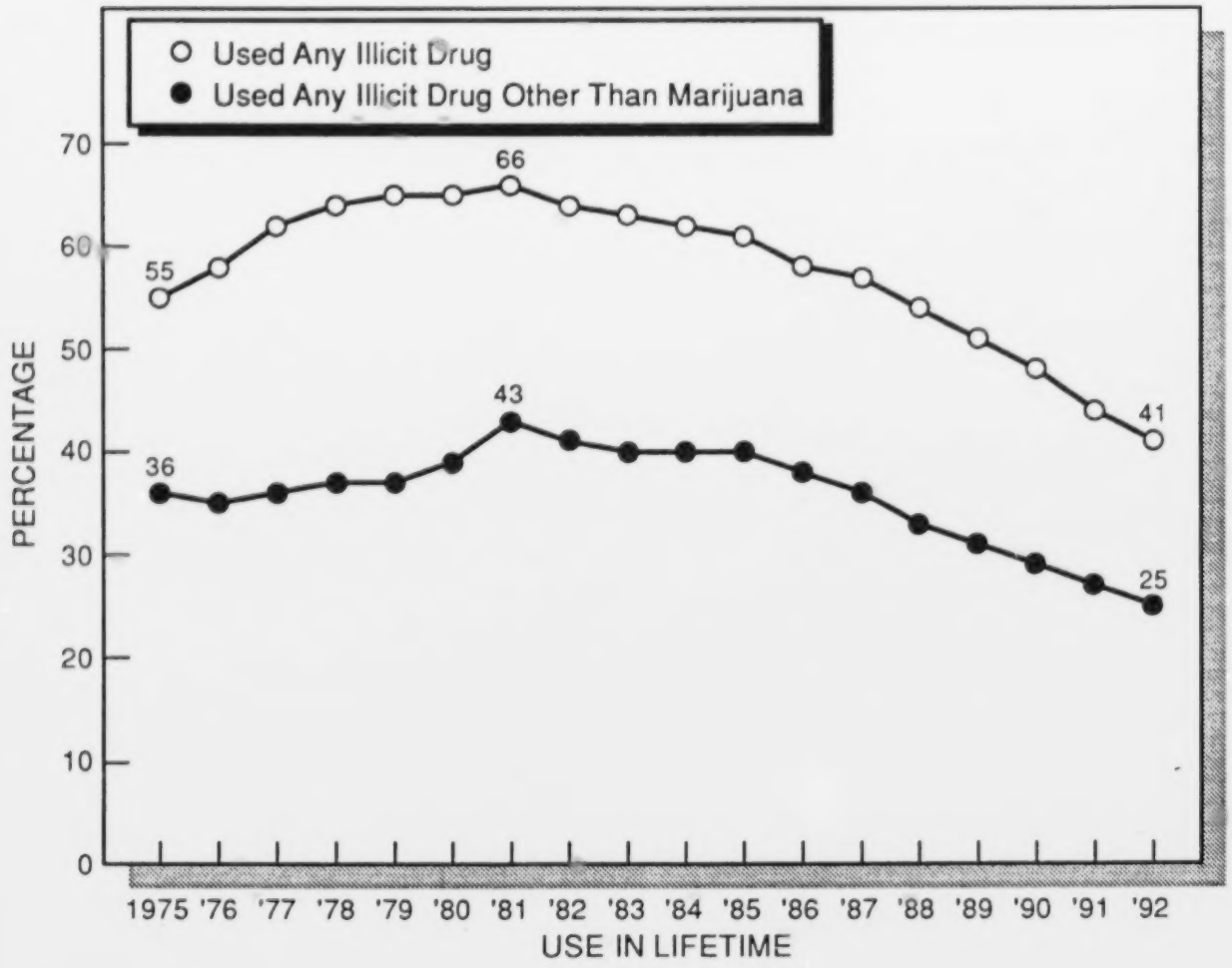
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	
Marijuana/Hashish	6.0	8.2	9.1	10.7	10.3	9.1	7.0	6.3	5.5	5.0	4.9	4.0	3.3	2.7	2.9	2.2	2.0	1.9	-0.1
Inhalants[d]	—	*	*	0.1	*	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.1	-0.1
Inhalants Adjusted[e]	—	—	—	—	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.2	-0.2
Amyl & Butyl Nitrites[f,g]	—	—	—	—	*	0.1	0.1	0.0	0.2	0.1	0.3	0.5	0.3	0.1	0.3	0.1	0.2	0.1	-0.1
Hallucinogens	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.0
Hallucinogens Adjusted[h]	—	—	—	—	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	*	0.3	0.3	0.1	0.1	0.0
LSD	*	*	*	*	*	*	0.1	*	0.1	0.1	0.1	*	0.1	*	*	0.1	0.1	0.1	0.0
PCP[f,g]	—	—	—	—	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.0
Cocaine	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.0
Crack[i]	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.2	0.1	0.1	0.1	0.0
Other cocaine[j]	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.2	0.1	0.1	0.1	*	0.0
Heroin	0.1	*	*	*	*	*	*	*	0.1	*	*	*	*	*	0.1	*	*	*	0.0
Other opiates[k]	0.1	0.1	0.2	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	*	0.0
Stimulants[b,k]	0.5	0.4	0.5	0.5	0.6	0.7	1.2	0.7	0.8	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.0
Crystal Meth. (Ice)[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.1	+0.1
Sedatives[k,m]	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	+0.1
Barbiturates[k]	0.1	0.1	0.2	0.1	*	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	*	0.1	0.1	0.1	*	0.0
Methaqualone[k,m]	*	*	*	*	*	0.1	0.1	0.1	*	*	*	*	*	0.1	*	*	*	0.1	0.0
Tranquilizers[k]	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	*	0.1	*	0.1	0.1	0.1	*	-0.1
Alcohol																			
Daily	5.7	5.6	6.1	5.7	6.9	6.0	6.0	5.7	5.5	4.8	5.0	4.8	4.8	4.2	4.2	3.7	3.6	3.4	-0.2
Been drunk daily[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.9	0.8	-0.1
5+ drinks in a row/ last 2 weeks	36.8	37.1	39.4	40.3	41.2	41.2	41.4	40.5	40.8	38.7	36.7	36.8	37.5	34.7	33.0	32.2	29.8	27.9	-1.9
Cigarettes																			
Daily	26.9	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	19.5	18.7	18.7	18.1	18.9	19.1	18.5	17.2	-1.3
Half-pack or more per day	17.9	19.2	19.4	18.8	16.5	14.3	13.5	14.2	13.8	12.3	12.5	11.4	11.4	10.6	11.2	11.3	10.7	10.0	-0.7
Smokeless Tobacco[m]	—	—	—	—	—	—	—	—	—	—	—	4.7	5.1	4.3	3.3	—	—	4.3	—
Steroids[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.2	0.1	0.1	0.0

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent classes is due to rounding error. '*' indicates less than .05 per cent.

See Table 11 for relevant footnotes.

FIGURE 6

Trends in Lifetime Prevalence of an Illicit Drug Use Index for Twelfth Graders

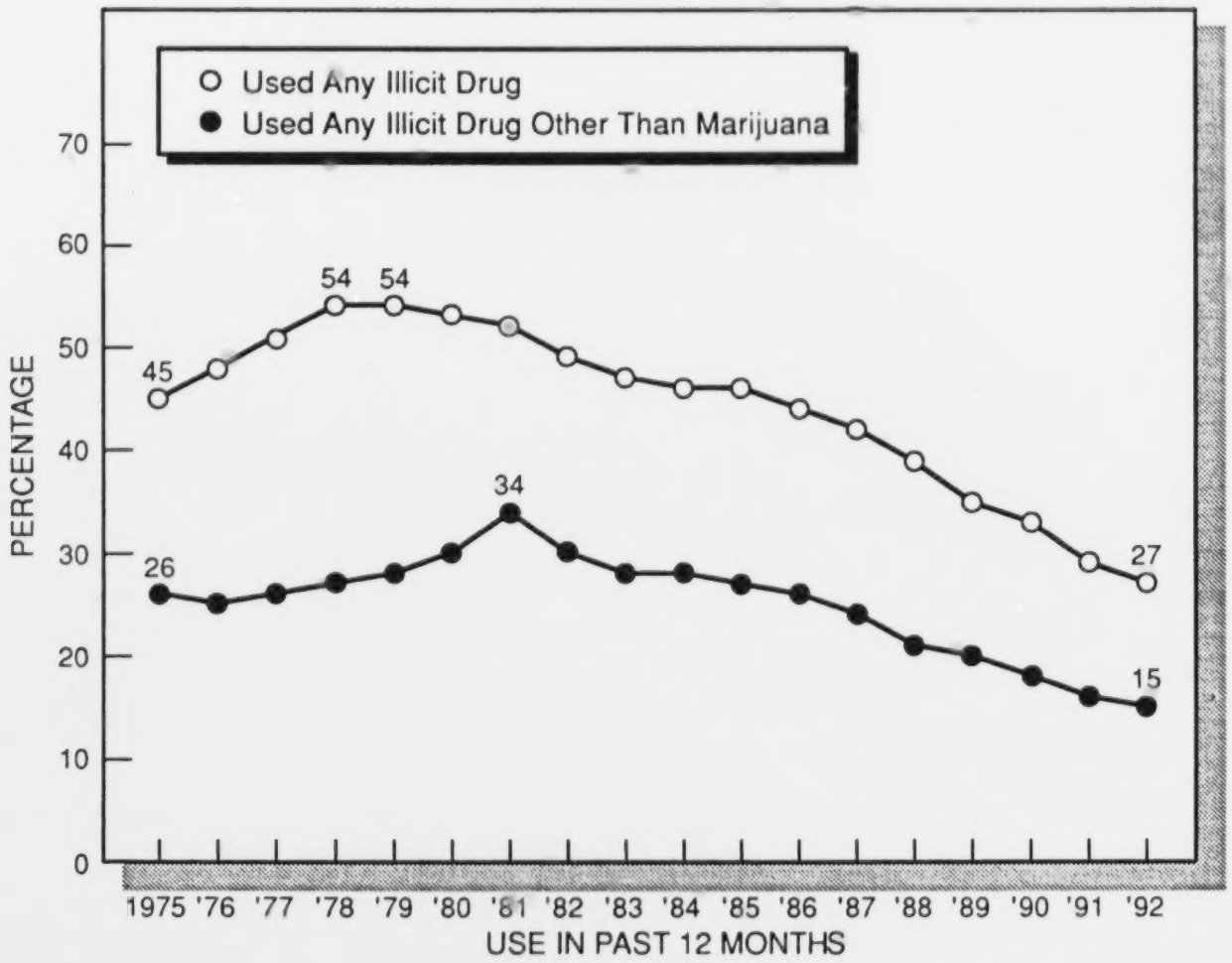


NOTES: Use of "any illicit drugs" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

FIGURE 7

Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders

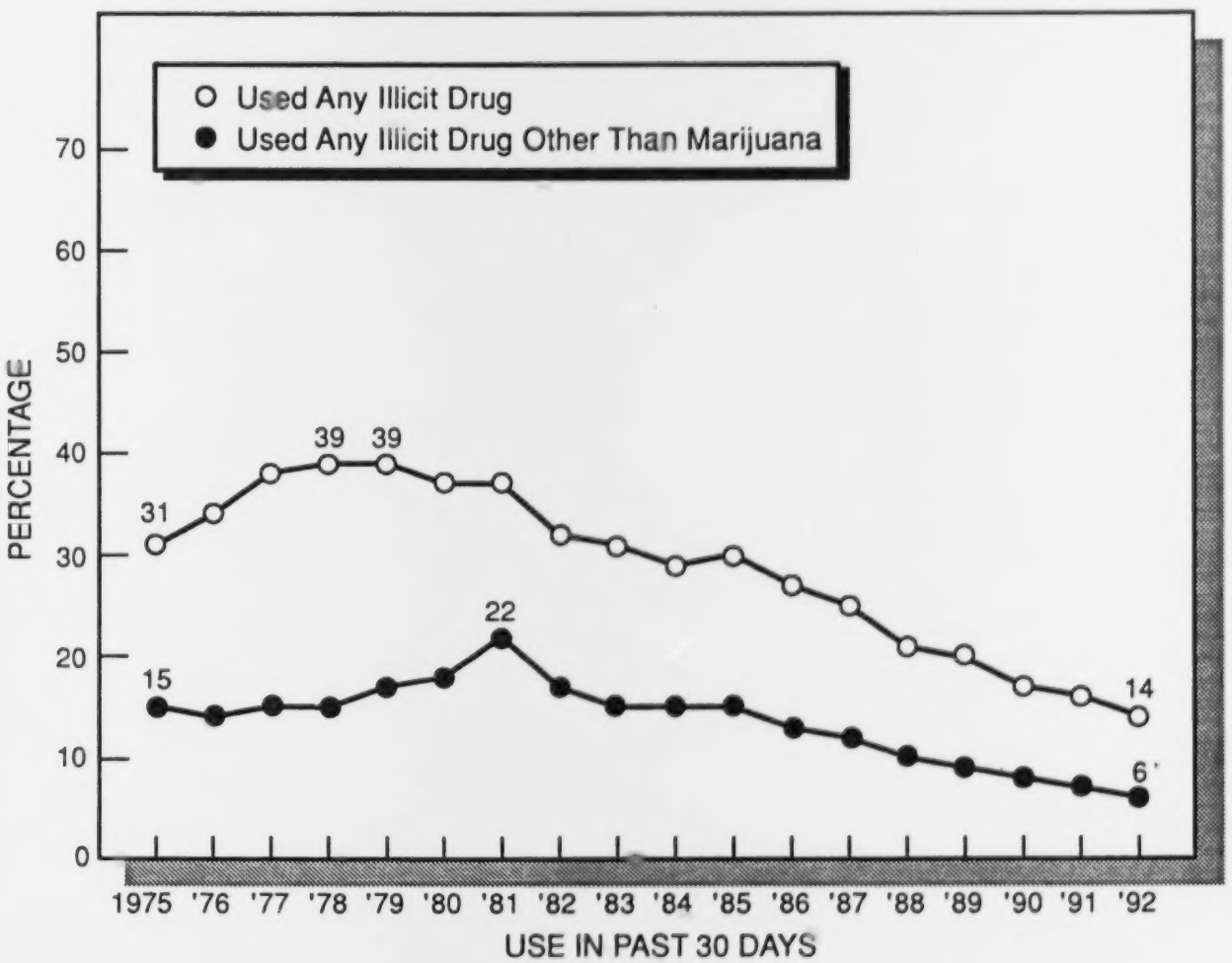


NOTES: Use of "any illicit drugs" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

FIGURE 8

Trends in Thirty-Day Prevalence of an Illicit Drug Use Index for Twelfth Graders



NOTES: Use of "any illicit drugs" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

one in every nine high school seniors (11%) indicated that he or she used the drug on a daily or nearly daily basis (defined as use on 20 or more occasions in the last 30 days). In 1979 this rapid and troublesome increase halted, followed by a rapid reversal. By 1992 the daily usage rate had dropped to 1.9%, well below the peak rate of 11% or even the 6% level we first observed in 1975. Much of this dramatic reversal may be attributed to a continuing increase in concerns about possible adverse effects from regular use, and to a growing perception that peers would disapprove of marijuana use, particularly regular use. In 1992 there was little further decline (down 0.1% from 2.0% in 1991).

- Until 1978, the proportion of seniors involved in ***any illicit drug use*** had increased steadily, primarily because of the increase in marijuana use (see Figure 6). About 54% of the classes of 1978 and 1979 reported having taken at least one illicit drug during the prior year, up from our first observation in the class of 1975 of 45%. Between 1979 and 1984, however, the proportion reporting using any illicit drug during the prior year dropped by 1% or 2% annually until 1985, when there was a brief pause in the decline. In 1986 the decline resumed, with annual prevalence dropping significantly to 27% in 1992. The change in marijuana use appears to be the primary reason for the overall decline in the proportion of students having any involvement with illicit drugs.

- As Figure 6 and Table 11 illustrate, between 1976 and 1982 there was a very gradual, steady increase in the proportion of twelfth graders who ever used ***some illicit drug other than marijuana.*** The proportion going beyond marijuana in their lifetime rose from 35% to 41% between 1976 and 1982, the peak year. Between 1982 and 1992 the revised version of this statistic declined gradually from 41% to 25%. The annual prevalence of such behaviors (Figure 7), which rose by nine percentage points between 1976 and 1981, leveled in 1982, then dropped back slightly in each subsequent year to 15% in 1992. The current (30-day) prevalence figures actually began to drop a year earlier–in 1982–and have shown the largest proportional drop, from 22% in 1981 to 6% in 1992 (see Figure 8 and Table 13).

  Most of the earlier rise in the use of some ***illicit drug other than marijuana*** appeared to be due to the increasing popularity of cocaine with this age group between 1976 and 1979, and then to the increasing use of stimulants between 1979 and 1982. As stated earlier, we believe that the upward shift in stimulant use was exaggerated because some respondents included instances of using over-the-counter stimulants in their reports of amphetamine use. Figures 6 through 8 show trends which, beginning in 1982, were revised to exclude the inappropriate reporting of these non-prescription stimulants.

- Although the overall proportion using illicit drugs other than marijuana has changed gradually and steadily during recent years, greater

fluctuations have occurred for specific drugs within the class. This is important because it shows that, while the proportion willing to try any illicit drug may put outer limits on the amplitude of fluctuations for any one of them, the various subclasses of drugs must have important determinants specific to them–variables such as perceived risks, peer normative attitudes, assumed benefits, and availability. Such variables will be discussed in chapters 8 and 9. (See Tables 11 through 13 and Figures 9a through 9h for trends in lifetime, annual, and monthly prevalence for each class of drugs.)

- From 1976 to 1979 ***cocaine*** (Figure 9e) exhibited a substantial increase in popularity, with annual prevalence going from 6% in the class of 1976 to 12% in the class of 1979–a two-fold increase in just three years. For the nation as a whole, there was little or no change in any of the cocaine prevalence statistics for seniors between 1979 and 1984. (Regional differences in trends are discussed below.) In 1985, we reported statistically significant increases in annual and monthly use, then a leveling again in 1986. However, since 1986 both indicators of use have decreased substantially: annual use decreased from 12.7% in 1986 to 3.1% in 1992; monthly use decreased from 6.2% to 1.3% over the same period–nearly an 80% drop. (Reasons for this decrease are discussed in the chapter on attitudes and beliefs.) It is noteworthy that in 1992 the cocaine declines for 30-day use (down 0.1%) and annual use (down 0.4%) were very small and not statistically significant.

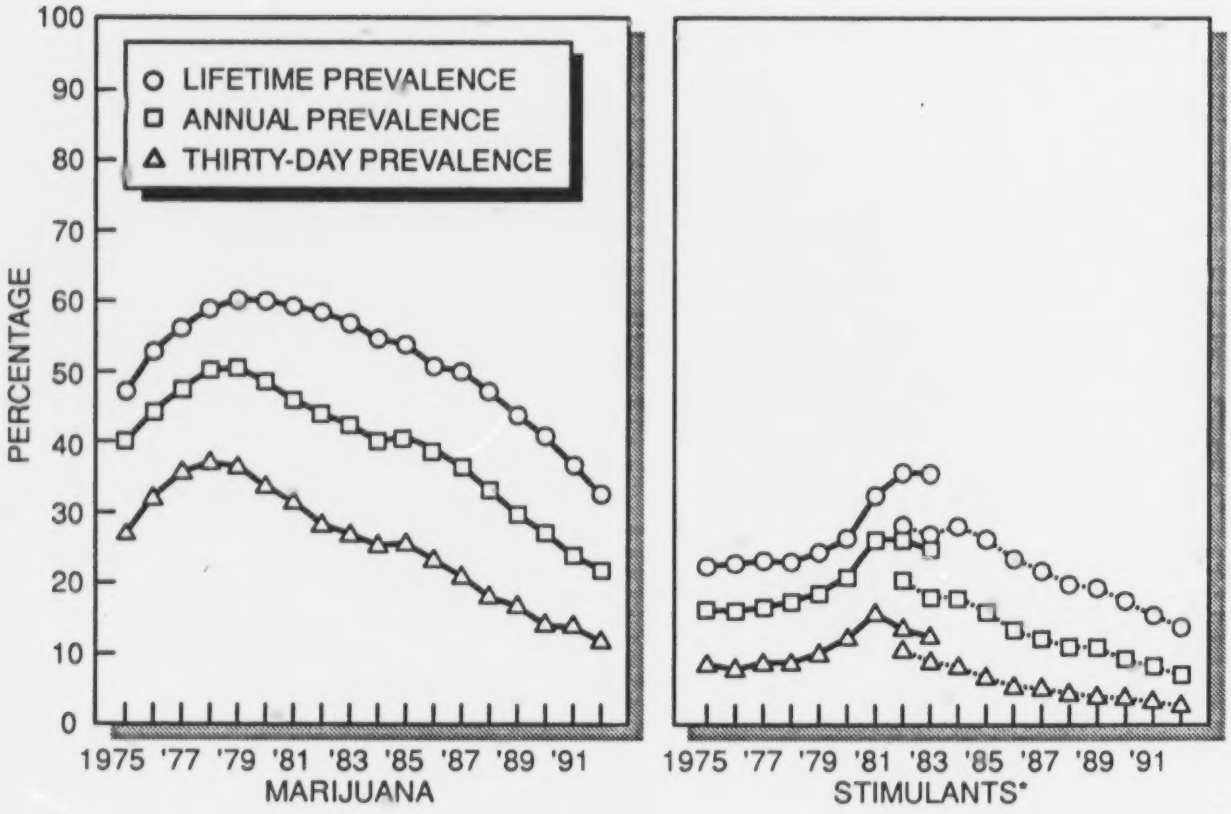
- Use of ***crack cocaine*** was measured by only a single question in 1986, which was contained in one questionnaire form and asked only of those who reported any use of cocaine in the past 12 months. It simply asked if crack was one of the forms of cocaine they had used. It is thus an estimate of the annual prevalence of crack use.

  Other indicators that were gathered routinely in the study show some indirect evidence of the rapid spread of crack prior to 1986. For example, we found that the proportion of all seniors reporting that they smoked cocaine (as well as having used in the past year) more than doubled between 1983 and 1986 from 2.4% to 5.7%; in the same period the proportion of all seniors who said that they both had used cocaine during the prior year and had at some time been unable to stop using when they tried to also doubled (from 0.4% to 0.8%); and, between 1984 and 1986 the proportion of seniors reporting active daily use of cocaine doubled (from 0.2% to 0.4%). We think it likely that the advent of crack use during this period contributed to these statistics.

- In 1987 we introduced questions about crack use into two questionnaire forms using our standard set of three questions which ask separately about frequency of use in lifetime, past 12 months, and past 30 days. These were added to all forms beginning in 1990.

FIGURE 9a

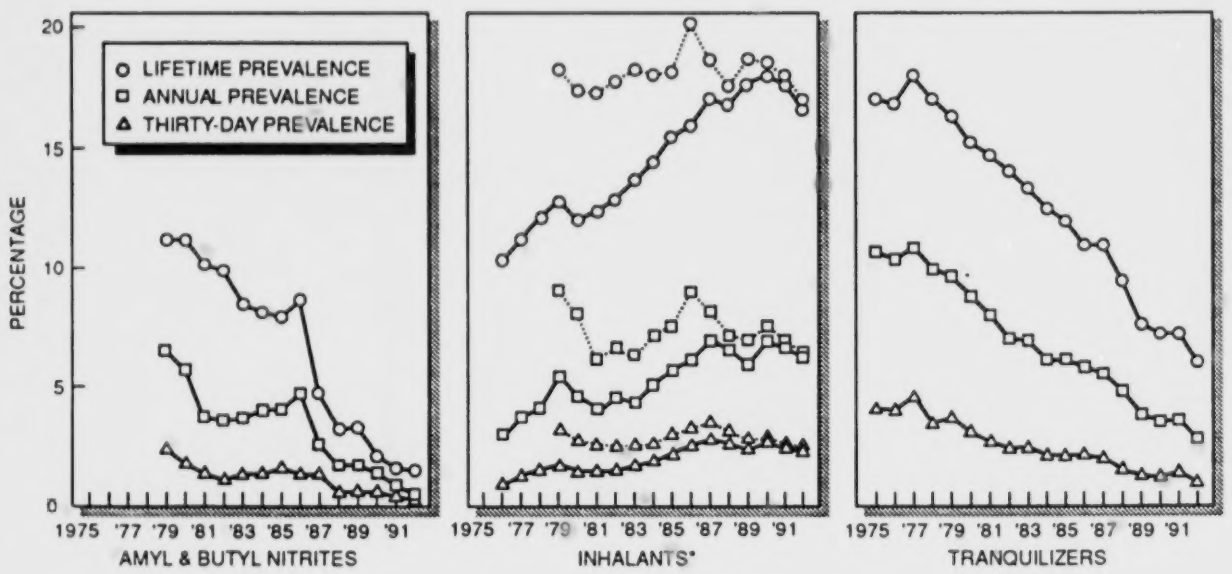
Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders



*The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 9b

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders



*The dotted lines connect percentages which are adjusted for underreporting of amyl and butyl nitrites.

FIGURE 9c

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders

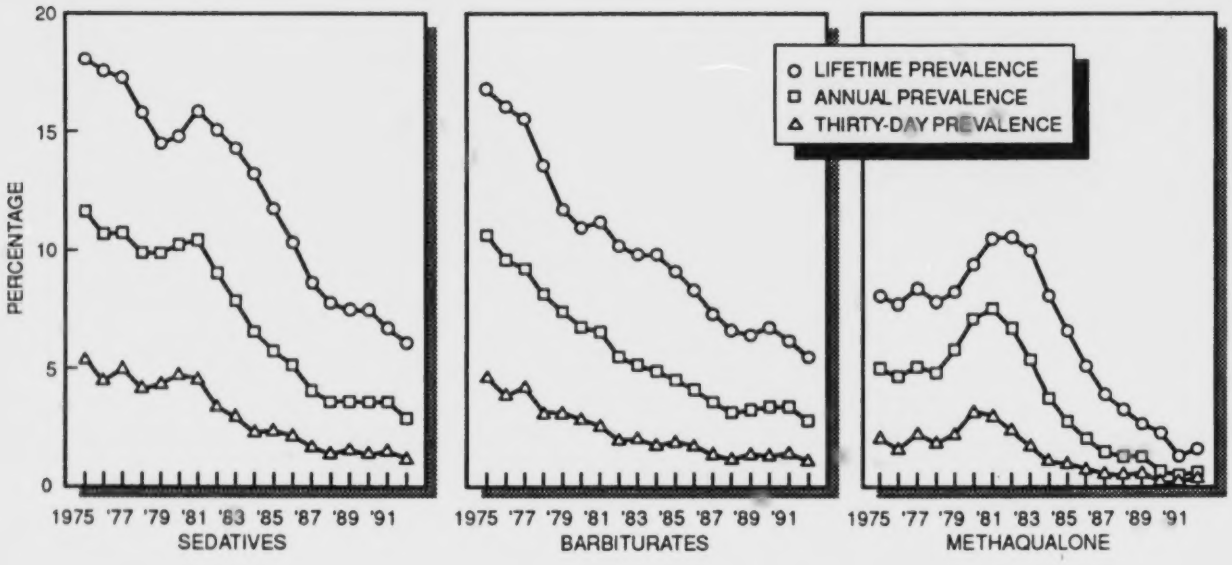
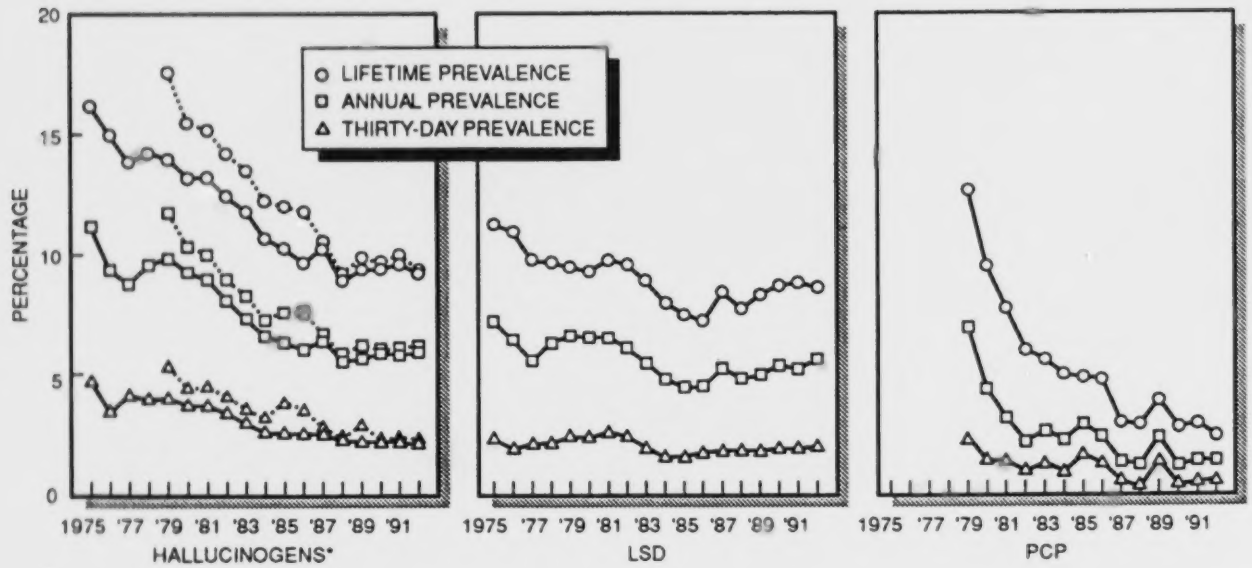


FIGURE 9d

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders



*The dotted lines connect percentages which are adjusted for underreporting of PCP.

FIGURE 9e

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders

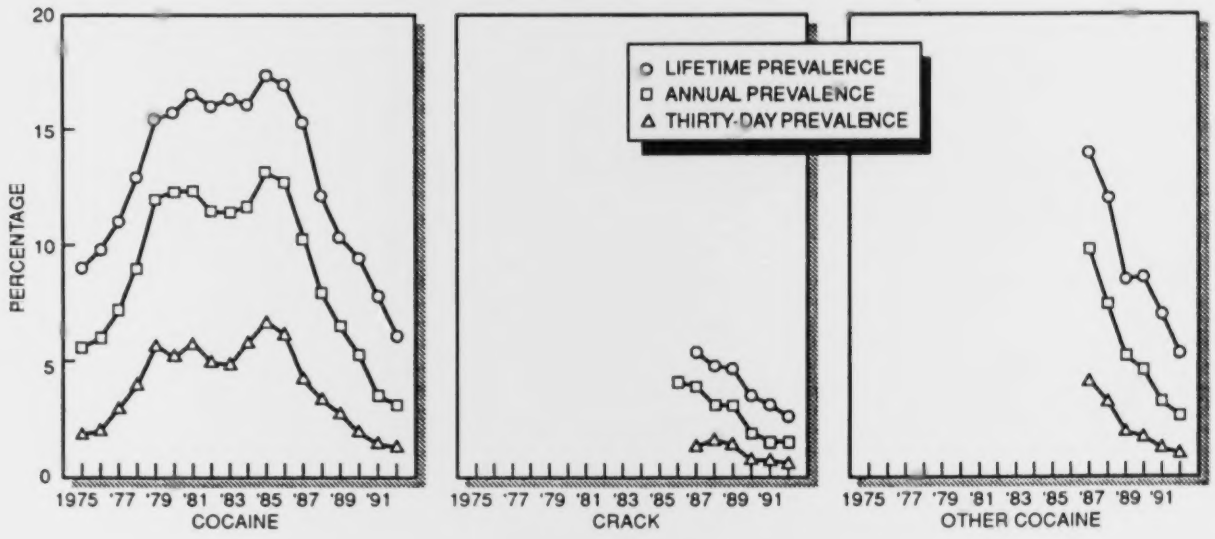


FIGURE 9f

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders

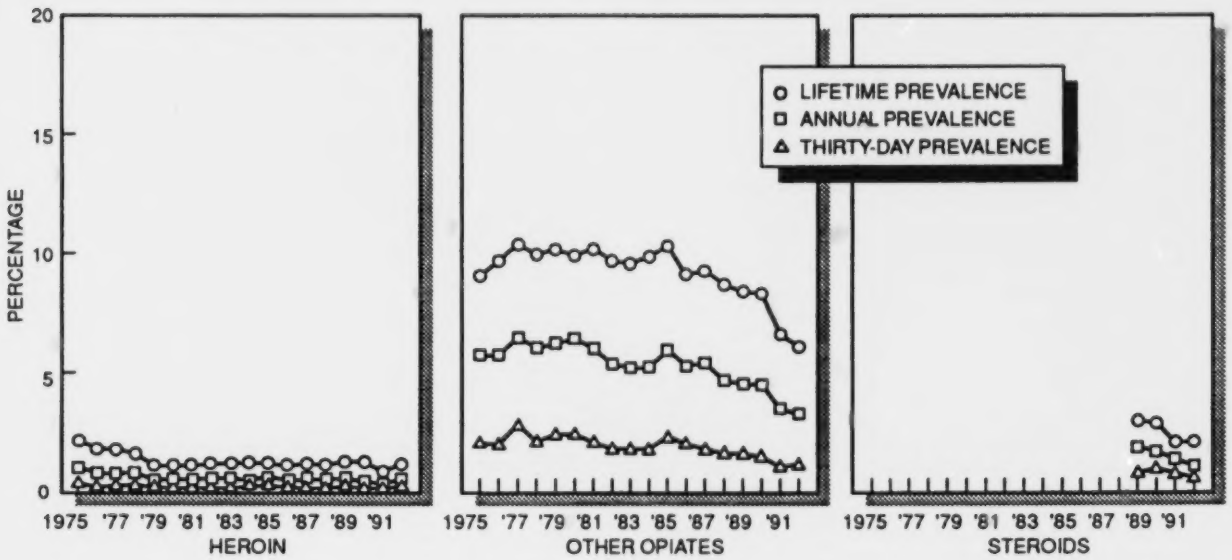


FIGURE 9g

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders

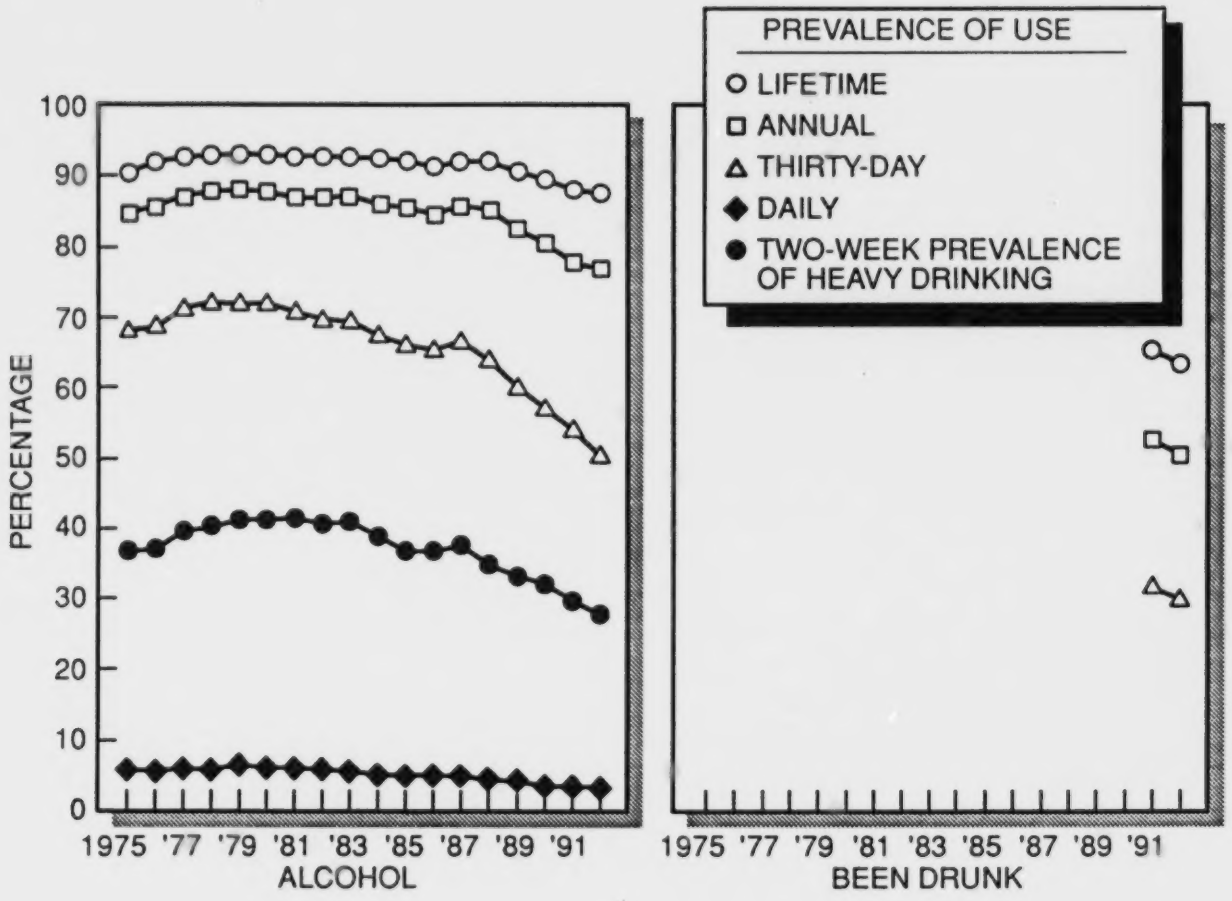
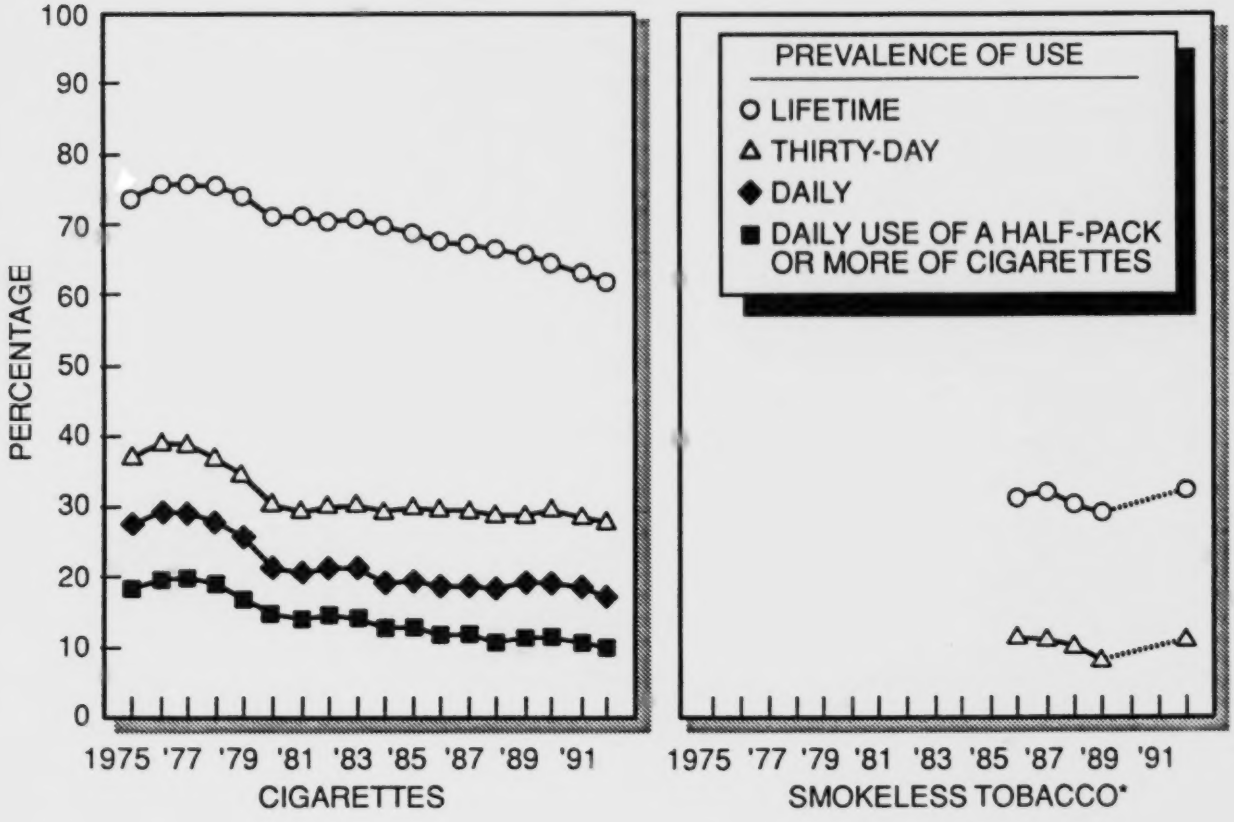


FIGURE 9h

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Various Drugs for Twelfth Graders



*Dotted line indicates that the intervening data are not available.

Between 1986 and 1992, annual ***crack*** prevalence declined from 4.1% to 1.5%, or about 60% over this time period (see Figure 9e). Lifetime prevalence rates were 5.4% in 1987 (the first year this measure was available) and now are down by half to 2.6% in 1992. The figures for 30-day prevalence have dropped from 1.3% in 1987 to 0.6% in 1992. However, as with cocaine in general, there was really no decline in annual or 30-day prevalence between 1991 and 1992.

It is important to note that ***crack*** use may be disproportionately located in the out-of-school population relative to most other drugs. In general, it would seem likely that the trends there would parallel those seen among high school seniors, who represent the majority of the population the same age, but one could imagine exceptions.

- Like cocaine use, ***inhalant*** use rose steadily, but more slowly, in the late 1970s (see Figure 9b). Annual prevalence (unadjusted) rose from 3.0% in 1976 and peaked at 5.4% in 1979. Starting in 1979 when separate questions were introduced to measure the use of nitrite inhalants, an adjustment was introduced into the overall inhalant use measure to correct for the known underreporting of nitrite inhalants. Between 1979 and 1983, there was some overall decline in this adjusted version–in part due to a substantial drop in the use of ***amyl and butyl nitrites,*** for which annual prevalence declined from 6.5% in 1979 to 3.6% in 1983. Both the adjusted and unadjusted measures increased modestly between 1983 and 1986, with annual use for inhalants (adjusted) increasing from 6.2% in 1983 to 8.9% in 1986, and the use of nitrites increasing less, from 3.6% to 4.7%.

  Since 1986, there has been a steep decline in nitrite use (from 4.7% to 0.5%) but only a modest decline in overall inhalant use (adjusted), with annual prevalence falling from 8.9% in 1986 to 6.4% in 1992. The gradual convergence of the unadjusted and adjusted inhalant prevalence rates seen in Figure 9b, suggests that the number of seniors who use nitrites, but do not report themselves as inhalant users on the general inhalant-use question, has diminished considerably, as would be expected in light of the overall decline in nitrite use.

  This unusual pattern of change, where inhalant use unadjusted for nitrites rose sharply over most of the life of the study, while the version adjusted for nitrites stayed fairly level over most of the life of the study (Figure 9b) is worth further consideration. What it seems to say is that the ***inhalants other than the nitrites***, taken as a whole, actually have been rising in use, but since 1979 this rise in use was largely offset or masked in the adjusted inhalants measure, by the sharp decline in the use of the nitrites. While there may have been a slight decline in the use of these other inhalants since 1990, it has been very slight. The longer term picture is that this class of drug-abusing behavior has become more common.

- ***Stimulant*** (amphetamine) use, remained relatively unchanged between 1975 and 1978, then began to show evidence of a gradual increase in use in 1979, with even greater increases occurring in 1980 and 1981 (Figure 9a). Between 1976 and 1981, reported annual prevalence rose 10% (from 16% to 26%); daily use tripled, from 0.4% to 1.2%. As stated earlier, we think these increases were exaggerated–perhaps sharply–by respondents in the 1980 and 1981 surveys in particular including nonamphetamine, over-the-counter diet pills (as well as "look-alike" and "sound-alike" pills) in their answers. In 1982, we added new versions of the questions on amphetamine use, which were more explicit in instructing respondents not to include such nonprescription pills. (These were added to only three of the five forms of the questionnaire being used; the amphetamine questions were left unchanged in the other two forms until 1984.) Between 1981 and 1982 prevalence rates dropped slightly as a result of this methodological change. In Tables 11 through 15 data for 1975 through 1981 are based on the unchanged questions, providing comparable data across time for longer-term trend estimates and data for 1982 through 1992 are based on the revised questions, providing our best assessments of current prevalence and recent trends in true amphetamine use.[15]

  In 1982 and 1983, the two years for which both adjusted and unadjusted statistics are available, the unadjusted showed a modest amount of overreporting (see Figure 9a). Both types of statistics, however, suggest that a downturn in the current use of stimulants began to occur in 1982 and has continued since. For example, between 1982 and 1992 the annual prevalence for amphetamines (adjusted) fell by six-tenths from 20% to 7%. Current use also fell by more than half. Still, in the class of 1992 about one-seventh of all seniors (14%) have tried amphetamines (adjusted), even though the decline continues.

- In 1990 questions were added to the questionnaires used with twelfth graders about their use of ***ice***, a crystallized form of methamphetamine which can be smoked much like crack. Despite the widespread concern that an epidemic of ice use would develop, it has not made much of an inroad into this population, perhaps because the dangerous reputation of crack rubbed off on it. The peak lifetime prevalence was 3.3% in 1991. In 1992 three of the four prevalence periods showed a slight decline, though none were statistically significant. Annual prevalence now stands at 1.3%.

- The sustained, gradual decline in ***sedative*** use (Figure 9c) between 1975 and 1979 halted in 1980 and 1981. Annual prevalence, which dropped steadily from 11.7% in 1975 to 9.9% in 1979, increased slightly

[15] We think the unadjusted estimates for the earliest years of the survey were probably little affected by the improper inclusion of nonprescription stimulants, since sales of the latter did not burgeon until after the 1979 data collection.

to 10.5% in 1981. The longer-term decline resumed again in 1982, and annual prevalence has now fallen to 2.9%. In sum, annual sedative use has dropped by three-quarters since the study began in 1975. But, the overall trend lines for sedatives mask differential trends occurring for the two components of the measure. ***Barbiturate*** use (Figure 9c) declined steadily between 1975 and 1987 before leveling; annual prevalence (2.8%) is now less than one-third of the 1975 level (10.7%). ***Methaqualone*** use (Figure 9c), on the other hand, rose sharply from 1978 until 1981. In fact, it was the only drug other than stimulants that was still rising in 1981. But in 1982, the use of methaqualone also began to decline, which accounted for the overall sedative category resuming its decline that year. Annual use now stands at less than one-thirteenth of its peak level observed by 1981 (0.6% in 1992 vs. 7.6% in 1981). Because of the low prevalence rate methaqualone questions were dropped from five of the six forms in 1990; since then, sedative prevalence estimates, a combination of barbiturate and methaqualone prevalence, are based on only one questionnaire form.

- Usage statistics for ***tranquilizers*** (Figure 9b) peaked in 1977, probably following a considerable period of increase, and have declined steadily since then. Lifetime prevalence has dropped by two-thirds (from 18% in 1977 to 6% in 1992), annual prevalence by nearly three-fourths (from 11% to 2.8%), and 30-day prevalence by more than three-fourths (from 4.6% to 1.0%). Significant declines occurred for all three prevalence measures in 1992.

- Between 1975 and 1979 the prevalence of ***heroin*** use dropped rather steadily (Figure 9f). Lifetime prevalence dropped from 2.2% in 1975 to 1.1% in 1979 and annual prevalence also dropped by half, from 1.0% in 1975 to 0.5% in 1979. This decline halted in 1980 and the statistics remained almost constant for a decade (through 1990). In 1991, lifetime prevalence fell significantly from 1.3% in 1990 to 0.9%, though the annual and 30-day statistics did not. In 1992, all prevalence levels rose slightly, returning to the level of their longer-term plateau.

- For the first twelve years of the study, the use of ***opiates other than heroin*** remained fairly stable, with annual prevalence fluctuating between 5.2% and 6.4% (see Figure 9f). Since 1987 there has been a modest, gradual decline in annual prevalence from 5.3% to 3.3% in 1992, making this one of the last drug classes to begin a decline in use.

- ***Hallucinogen*** use (unadjusted for underreporting of PCP) declined some in the mid-1970s (Figure 9d) from annual prevalence of 11.2% in 1975 to 9.6% in 1978. This may well have been the tail end of a longer period of decline precipitated by rising concerns about the adverse effects of hallucinogens–particularly LSD–and particularly about their possible damage to the brain and genes. Hallucinogen use then leveled for several years before beginning another sustained decline. Between

1979, when the first figures adjusted for the underreporting of PCP were available, and 1984 there was a steady decline, with adjusted annual prevalence dropping from 11.8% to 7.3%. The rate remained level through 1986, dropped a little more through 1989, but has remained stable since.

- ***LSD*** (Figure 9d), one of the major drugs comprising the hallucinogen class, showed a modest decline from 1975 to 1977, followed by considerable stability through 1981. Between 1981 and 1985, however, there was a second period of gradual decline, with annual prevalence falling from 6.5% to 4.4%. Since 1985 annual prevalence has risen fairly steadily, from 4.4% to 5.6% in 1992. In recent years LSD has been bucking the trends for nearly all illicit drugs, and there also has been some rise in use in the other populations included in this study.

- Prevalence statistics for the specific hallucinogen ***PCP*** have shown a very substantial decline since 1979 when the use of this drug was first measured (see Figure 9d). Annual prevalence dropped from 7.0% in the class of 1979 to 2.2% in the class of 1982. After leveling for a few years, it dropped further to reach 1.4% in 1991. There was no further change in 1992.

- As can be seen from these varied patterns of use, the overall proportion of seniors using ***any illicit drugs other than marijuana*** in their lifetime has changed some over the years, but the mix of drugs they are using has changed even more. A number of drug classes have shown dramatic declines, some have shown substantial declines, and some have remained fairly stable. Further, the periods in which they either increased or declined varied considerably for the different classes of drugs.

- Turning to the licit drugs, in the last half of the 1970s there was a small upward shift in the prevalence of ***alcohol*** use among seniors (see Figure 9g). To illustrate, between 1975 and 1979 the annual prevalence rate rose steadily from 85% to 88%, the monthly prevalence rose from 68% to 72%, and the daily prevalence rose from 5.7% to 6.9%. As with marijuana, 1979 was the peak year for use. Since 1979, there has been a slight decrease in lifetime prevalence (from 93% to 88% in 1992) and some drop for the more current prevalence intervals. Between 1979 and 1985 annual prevalence fell from 88% to 86%, monthly prevalence from 72% to 66%, and daily prevalence from 6.9% to 5.0%. (The change in daily use is the most important of these shifts.) All rates remained fairly level from about 1985 to 1987; since then they have shown some further decline. Thirty-day prevalence, for example, fell from 66% to 51% in 1992, and is down by about one-third from its peak level in 1979 (72%). The prevalence of daily use fell from 4.8% to 3.4% between 1987 and 1992, and is now down by one-half from its peak level in 1979 (6.9%).

- A similar pattern was observed in the frequency of ***occasional heavy drinking*** (Figure 9g). When asked whether they had taken five or more drinks in a row during the prior two weeks, 37% of the seniors in 1975 said they had. This proportion rose gradually to 41% by 1979, where it remained through 1983. In both 1984 and 1985, we observed drops of 2 percentage points in this troublesome statistic, bringing it to 37%, exactly where it was in 1975. There was no further change in 1986 or 1987. However, since 1987 it has dropped by another 10 percentage points, from 38% to 28% in 1992. This important statistic has fallen by nearly one-third from its peak level of 41%.

  Questions asking the respondents to report how often they had ***been drunk*** in their lifetime, the past 12 months, and the past 30 days were introduced in 1991. They also show declines for the one-year interval for which data exist, though not yet statistically significant ones (Tables 11-14).

- There is no evidence that the drop in marijuana use observed over the past 14 years has led to a concomitant increase in alcohol use, as many observers suggested would happen. In fact, there has been some parallel decline in annual, monthly, and daily alcohol use as well as in occasional heavy drinking.

- As for ***cigarette*** use, 1976 and 1977 appear to have been the years of peak smoking rates in this age group, as measured by lifetime, 30-day, and daily prevalence. (Annual prevalence is not asked.) Over the four subsequent graduating classes, 30-day prevalence dropped substantially from 38% in the class of 1977 to 29% in the class of 1981. (See Tables 13 and 14 and Figure 9h.) More importantly, ***daily cigarette use*** dropped over that same interval from 29% to 20%, and daily use of half-pack-a-day or more from 19% to 14% between 1977 and 1981 (nearly a one-third decrease). In 1981 we reported that the decline appeared to be decelerating; in 1982 and 1983 it had clearly halted. There was a brief resumption of the earlier decline in 1984, with daily use falling from 21% to 19%, and daily use of half-pack-a-day dropping from 14% to 12%. Since 1984, there has been very little change in most of these statistics. Thirty-day prevalence has fallen from 29% in 1984 to 28% in 1992, daily use from 19% to 17%, and half-pack-a-day smoking from 12% to 10%. What seems most noteworthy is the lack of appreciable decline in the smoking rates since the early 1980s, despite (a) the general decline which has occurred for most other drugs (including alcohol), (b) the considerable amount of restrictive legislation which has been debated and enacted at state and local levels in the past eight years, and (c) the prevention efforts being made in many school systems.

- Questions about the use of ***smokeless tobacco***, which includes the use of chewing tobacco and snuff, were first introduced in 1986. They were

omitted for two years (1990 and 1991) and reintroduced in 1992. The results show a surprisingly high rate of use for the sample overall, and particularly high for the boys, who account for nearly all of the use. In 1992 a third of all seniors had tried smokeless tobacco and 4.3% were current daily users. The trends for the period 1986 to 1989 showed a decline in use, with 30-day prevalence falling steadily from 11.5% to 8.4%. However, when the questions were reintroduced three years later in 1992, the rate had returned almost exactly to its 1986 level (11.4%).

- Trend data on ***steroid*** use are available since 1989. Annual prevalence has declined gradually, but steadily, since then (from 1.9% in 1989 to 1.1% in 1992).

TRENDS IN PREVALENCE 1991-1992: EIGHTH AND TENTH GRADERS

Since only one year of trend data is available, all prevalence periods for all drugs can be combined into a single table (Table 15). The data for all three grades (8, 10, and 12) are included in this table to facilitate cross-grade comparisons.

- The trends for 1991-1992 are different for the three grade levels on a number of drugs. While the twelfth graders have been continuing their longer-term decline on a number of drugs, including ***marijuana***, ***stimulants***, ***tranquilizers***, ***cocaine***, ***cocaine powder***, and to a lesser extent ***crack***, the eighth grade students have actually shown some *increase* in all of these. Change for the tenth graders tends to lie somewhere in between these two grades.

- ***Marijuana use*** rose significantly among eighth graders, with annual prevalence up from 6.2% to 7.2%.

- Annual ***hallucinogen*** use also rose significantly, from 1.9% to 2.5%. Both components of the class, ***LSD*** and ***hallucinogens other than LSD***, rose in 1992.

- Overall ***cocaine*** use also rose significantly among eighth graders. The two components of the class, ***crack*** and ***other cocaine***, rose but not significantly.

- Other drugs which rose, but not by statistically significant amounts, include ***inhalants***, ***tranquilizers***, and ***stimulants***. (The stimulant increase was significant for the 30-day prevalence period, possibly indicating a very recent change.) In fact, ***heroin*** was the only drug for which annual prevalence did not go up among eighth graders in 1992.
- It is noteworthy that all three grade levels showed some increase in ***LSD*** use, although the proportional increase is clearly largest in the youngest age group. These findings, in conjunction with our

TABLE 15

Trends in Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Grade Students

	Lifetime			Annual			30-Day			Daily		
	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change
Marijuana/Hashish												
8th Grade	10.2	11.2	+1.0s	6.2	7.2	+1.0s	3.2	3.7	+0.5	0.2	0.2	0.0
10th Grade	23.4	21.4	–2.0	16.5	15.2	–1.3	8.7	8.1	–0.6	0.8	0.8	0.0
12th Grade	36.7	32.6	–4.1sss	23.9	21.9	–2.0s	13.8	11.9	–1.9s	2.0	1.9	–0.1
Inhalants[a,b]												
8th Grade	17.6	17.4	–0.2	9.0	9.5	+0.5	4.4	4.7	+0.3	0.2	0.3	+0.1
10th Grade	15.7	16.6	+0.9	7.1	7.5	+0.4	2.7	2.7	0.0	0.1	0.1	0.0
12th Grade	17.6	16.6	–1.0	6.6	6.2	–0.4	2.4	2.3	–0.1	0.2	0.1	–0.1
Hallucinogens[b]												
8th Grade	3.2	3.8	+0.6s	1.9	2.5	+0.6ss	0.8	1.1	+0.3s	0.1	0.1	0.0
10th Grade	6.1	6.4	+0.3	4.0	4.3	+0.3	1.6	1.8	+0.2	*	0.1	+0.1
12th Grade	9.6	9.2	–0.4	5.8	5.9	+0.1	2.2	2.1	–0.1	0.1	0.1	0.0
LSD												
8th Grade	2.7	3.2	+0.5s	1.7	2.1	+0.4s	0.6	0.9	+0.3s	*	*	0.0
10th Grade	5.6	5.8	+0.2	3.7	4.0	+0.3	1.5	1.6	+0.1	*	0.1	+0.1
12th Grade	8.8	8.6	–0.2	5.2	5.6	+0.4	1.9	2.0	+0.1	0.1	0.1	0.0
Hallucinogens Other than LSD												
8th Grade	1.4	1.7	+0.3	0.7	1.1	+0.4ss	0.3	0.4	+0.1	*	*	0.0
10th Grade	2.2	2.5	+0.3	1.3	1.4	+0.1	0.4	0.5	+0.1	*	*	0.0
12th Grade	3.7	3.3	–0.4	2.0	1.7	–0.3	0.7	0.5	–0.2	*	*	0.0
Cocaine												
8th Grade	2.3	2.9	+0.6s	1.1	1.5	+0.4s	0.5	0.7	+0.2	0.1	*	0.0
10th Grade	4.1	3.3	–0.8s	2.2	1.9	–0.3	0.7	0.7	0.0	0.1	*	0.0
12th Grade	7.8	6.1	–1.7ss	3.5	3.1	–0.4	1.4	1.3	–0.1	0.1	0.1	0.0
Crack												
8th Grade	1.3	1.6	+0.3	0.7	0.9	+0.2	0.3	0.5	+0.2s	*	*	0.0
10th Grade	1.7	1.5	–0.2	0.9	0.9	0.0	0.3	0.4	+0.1	*	*	0.0
12th Grade	3.1	2.6	–0.5	1.5	1.5	0.0	0.7	0.6	–0.1	0.1	0.1	0.0
Other Cocaine[c]												
8th Grade	2.0	2.4	+0.4	1.0	1.2	+0.2	0.5	0.5	0.0	*	*	0.0
10th Grade	3.8	3.0	–0.8ss	2.1	1.7	–0.4	0.6	0.6	0.0	*	*	0.0
12th Grade	7.0	5.3	–1.7sss	3.2	2.6	–0.6s	1.2	1.0	–0.2	0.1	*	0.0
Heroin												
8th Grade	1.2	1.4	+0.2	0.7	0.7	0.0	0.3	0.4	+0.1	*	*	0.0
10th Grade	1.2	1.2	0.0	0.5	0.6	+0.1	0.2	0.2	0.0	*	*	0.0
12th Grade	0.9	1.2	+0.3	0.4	0.6	+0.2	0.2	0.3	+0.1	*	*	0.0
Stimulants[d]												
8th Grade	10.5	10.8	+0.3	6.2	6.5	+0.3	2.6	3.3	+0.7s	0.1	0.1	+0.1
10th Grade	13.2	13.1	–0.1	8.2	8.2	0.0	3.3	3.6	+0.3	0.1	0.1	0.0
12th Grade	15.4	13.9	–1.5s	8.2	7.1	–1.1s	3.2	2.8	–0.4	0.2	0.2	0.0
Tranquilizers[d]												
8th Grade	3.8	4.1	+0.3	1.8	2.0	+0.2	0.8	0.8	0.0	*	*	0.0
10th Grade	5.8	5.9	+0.1	3.2	3.5	+0.3	1.2	1.5	+0.3	*	*	0.0
12th Grade	7.2	6.0	–1.2s	3.6	2.8	–0.8s	1.4	1.0	–0.4s	0.1	*	–0.1

(Table continued on next page)

TABLE 15 (continued)

Trends in Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Grade Students

	Lifetime			Annual			30-Day			Daily		
	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change	1991	1992	'91–'92 change
Alcohol												
Any use												
8th Grade	70.1	69.3	–0.8	54.0	53.7	–0.3	25.1	26.1	+1.0	0.5	0.6	+0.1
10th Grade	83.8	82.3	–1.5	72.3	70.2	–2.1s	42.8	39.9	–2.9ss	1.3	1.2	–0.1
12th Grade	88.0	87.5	–0.5	77.7	76.8	–0.9	54.0	51.3	–2.7s	3.6	3.4	–0.2
Been Drunk[e]												
8th Grade	26.7	26.8	+0.1	17.5	18.3	+0.8	7.6	7.5	–0.1	0.1	0.1	0.0
10th Grade	50.0	47.7	–2.3s	40.1	37.0	–3.1sss	20.5	18.1	–2.4ss	0.2	0.3	+0.1
12th Grade	65.4	63.4	–2.0	52.7	50.3	–2.4	31.6	29.9	–1.7	0.9	0.8	–0.1
5+ drinks in last 2 weeks												
8th Grade	—	—	—	—	—	—	—	—	—	12.9	13.4	+0.5
10th Grade	—	—	—	—	—	—	—	—	—	22.9	21.1	–1.8
12th Grade	—	—	—	—	—	—	—	—	—	29.8	27.9	–1.9
Cigarettes												
Any use												
8th Grade	44.0	45.2	+1.2	—	—	—	14.3	15.5	+1.2	7.2	7.0	–0.2
10th Grade	55.1	53.5	–1.6	—	—	—	20.8	21.5	+0.7	12.6	12.3	–0.3
12th Grade	63.1	61.8	–1.3	—	—	—	28.3	27.8	–0.5	18.5	17.2	–1.3
1/2pack+/day												
8th Grade	—	—	—	—	—	—	—	—	—	3.1	2.9	–0.2
10th Grade	—	—	—	—	—	—	—	—	—	6.5	6.0	–0.5
12th Grade	—	—	—	—	—	—	—	—	—	10.7	10.0	–0.7
Smokeless Tobacco[f,g]												
8th Grade	22.2	20.7	–1.5	—	—	—	6.9	7.0	+0.1	1.6	1.8	+0.2
10th Grade	28.2	26.6	–1.6	—	—	—	10.0	9.6	–0.4	3.3	3.0	–0.3
12th Grade	—	32.4	—	—	—	—	—	11.4	—	—	4.3	—
Steroids[e]												
8th Grade	1.9	1.7	–0.2	1.0	1.1	+0.1	0.4	0.5	+0.1	*	*	0.0
10th Grade	1.8	1.7	–0.1	1.1	1.1	0.0	0.6	0.6	0.0	0.1	*	0.0
12th Grade	2.1	2.1	0.0	1.4	1.1	–0.3	0.8	0.6	–0.2	0.1	0.1	0.0

NOTE: Level of significance of difference between the two most recent classes: s=.05, ss=.01, sss=.001. '—' indicates data not available. '*' indicates less than .05 per cent. Any apparent inconsistency between the change estimate and the prevalence estimates for the recent classes is due to rounding error.

Approx. N =

8th Grade = 17500 in 1991; 18600 in 1992
10th Grade = 14800 in 1991; 14800 in 1992
12th Grade = 15000 in 1991; 15800 in 1992

[a]12th grade only: Data based on five questionnaire forms. N is five-sixths of N indicated.
[b]12th grade only: Unadjusted for underreporting of certain drugs.
[c]12th grade only: Data based on four questionnaire forms. N is four-sixths of N indicated.
[d]12th grade only: Only drug use which was not under a doctor's orders is included here.
[e]12th grade only: Data based on two questionnaire forms. N is two-sixths of N indicated.
[f]8th and 10th grade: Data based on one questionnaire form. N is one-half of N indicated.
[g]12th grade only: Data based on one questionnaire form. N is one-sixth of N indicated.

earlier reported findings of an increase in LSD use among college students, suggest that LSD is making something of a comeback, though as of yet not a very large one. This is of particular interest in that LSD was one of the first drugs to decline, almost surely because of rising concerns about its dangers in the early to mid-1970s. It therefore may be the first to reflect the effects of "generational forgetting," where replacement cohorts do not have as much concern about its dangers as their predecessors because they did not have comparable opportunities for direct and vicarious learning about the consequences of using the drug.[16]

- While the tenth and twelfth graders showed declines on virtually all of the ***alcohol*** use measures (Table 15), and significant declines for a number of them, eighth graders showed increases on several of them (though none were statistically significant) and very small decreases on the others. Very large differences remain among the grade levels, in rates of drinking, drunkenness, and having five or more drinks in a row.

- Because changes in ***cigarette smoking*** are largely the product of cohort differences, rather than general secular trends, it comes as less of a surprise to see diverging trends for different grade levels on this drug class. While the twelfth graders show a small decline of 0.5% in 30-day prevalence, the tenth graders show a rise of 0.7%, and the eighth graders a rise of 1.2%. (None of these reach statistical significance.) The daily use and half-pack-a-day measures show some very small decline in all three grades.

- For ***smokeless tobacco*** there seems to be little change in current use, though lifetime prevalence did decline for eighth and tenth graders.

- ***Steroid*** use showed little change in any grade level in 1992.

TRENDS IN NONCONTINUATION RATES: TWELFTH GRADERS

Table 16 shows how the user noncontinuation rates observed for the various classes of drugs have changed over time among twelfth graders. (No such calculations have yet been made for the lower grades.) Recall that the noncontinuation rate is defined here as the percentage of those who ever used the drug but did not use in the twelve months prior to the survey.

- ***Marijuana*** showed some increase in the noncontinuation rates between 1979 (16%) and 1984 (27%). This increase gave rise to the greater drop in annual use than in lifetime use. Between 1984 and

[16]See Johnston, L.D. (1991). Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

TABLE 16
Trends in Noncontinuation Rates
Twelfth Graders Who Ever Used Drug in Lifetime

Percent who did not use in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992
Marijuana/Hashish	15.4	15.7	15.6	15.2	15.9	19.1	22.5	24.5	25.8	27.1	25.1	23.8	27.7	29.9	32.3	33.7	34.9	32.8
Inhalants	—	70.9	66.7	65.8	57.5	61.3	66.7	64.8	68.4	64.6	63.0	61.6	59.4	61.1	66.5	61.7	62.5	62.7
Inhalants, Adjusted	—	—	—	—	50.8	55.7	65.5	63.3	64.4	58.4	59.8	55.7	56.5	59.4	62.9	59.5	61.7	62.4
Nitrites	—	—	—	—	41.4	48.6	63.4	63.3	57.1	50.6	49.4	45.3	44.7	46.9	48.5	33.3	43.7	66.7
Hallucinogens	31.3	37.7	36.7	32.9	29.8	30.1	32.3	35.2	38.7	39.3	38.8	38.1	37.9	38.2	40.4	37.2	39.6	35.9
Hallucinogens, Adjusted	—	—	—	—	31.2	32.5	35.7	38.0	36.7	40.6	36.9	36.1	36.8	37.0	37.4	38.1	39.0	34.0
LSD	36.3	41.8	43.9	35.1	30.5	30.1	33.7	36.5	39.3	41.3	41.3	37.5	38.1	37.7	41.0	37.9	40.9	34.9
PCP	—	—	—	—	45.3	54.2	59.0	63.3	53.6	54.0	40.8	50.0	56.7	58.6	38.5	57.1	51.7	41.7
Cocaine	37.8	38.1	33.3	30.2	22.1	21.7	24.8	28.1	29.6	28.0	24.3	24.9	32.2	34.7	36.9	43.6	55.1	49.2
Crack	—	—	—	—	—	—	—	—	—	—	—	—	27.8	35.4	34.0	45.7	51.6	42.3
Other Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	30.0	38.8	38.8	46.5	54.3	50.9
Heroin	54.5	55.6	55.6	50.0	54.5	54.5	54.5	50.0	50.0	61.5	50.0	54.5	58.3	54.5	53.8	61.5	55.6	50.0
Other Opiates	36.7	40.6	37.9	39.4	38.6	35.7	41.6	44.8	45.7	46.4	42.2	42.2	42.4	46.5	47.0	45.8	47.0	45.9
Stimulants	27.4	30.1	29.1	25.3	24.4	21.2	19.3	27.2	33.5	36.6	39.7	42.7	43.5	44.9	43.5	48.0	46.8	48.9
Crystal Meth. (Ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.9	57.6	55.2
Sedatives	35.7	39.5	37.9	38.1	32.2	30.9	34.4	40.1	45.1	50.4	50.8	50.0	52.9	52.6	50.0	—	—	—
Barbiturates	36.7	40.7	40.4	40.9	36.4	38.2	41.6	46.6	47.5	50.5	50.0	50.0	51.4	52.2	49.2	50.0	45.2	49.1
Methaqualone	37.0	39.7	38.8	38.0	28.9	24.2	28.3	36.4	46.5	54.2	58.2	59.6	62.5	60.6	51.9	69.6	61.5	62.5
Tranquilizers	37.6	38.7	40.0	41.8	41.1	42.8	45.6	50.0	48.1	50.8	48.7	46.8	49.5	48.9	50.0	51.4	50.0	53.3
Alcohol	6.2	6.7	5.9	5.8	5.3	5.7	6.0	6.5	5.7	7.1	7.2	7.4	7.0	7.3	8.8	9.9	11.7	12.2
Been Drunk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.4	20.7
Cigarettes[a]	16.0	16.7	16.2	17.9	19.6	21.4	20.8	19.1	18.6	18.5	15.9	17.0	17.1	18.2	18.5	18.2	17.4	18.6
Smokeless Tobacco[a]	—	—	—	—	—	—	—	—	—	—	—	21.8	18.4	25.7	26.2	—	—	29.6
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.7	41.4	33.3	47.6

NOTE: "—" indicates data not available.

[a]Percentage of regular users (ever) who did not use at all in the last thirty days.

1987 there was no further increase, but since 1987 the noncontinuation rate has risen to 33% in 1992, or twice what it was in 1979.

- The noncontinuation rate for ***cocaine*** decreased from 38% in 1976 to 22% in 1979, corresponding to the period of increase in the overall prevalence of use. It then remained fairly stable through 1986, corresponding to a period of stability in the actual prevalence statistics. Since 1986, use has fallen substantially, reflecting in part a considerable increase in the rate of noncontinuation– from 25% in 1986 to 49% in 1992.

- For ***crack***, statistics exist only since 1987, but they also show a sharp rise in noncontinuation, from 28% in 1987 to 42% in 1992. Again, this was a period of declining use.

- There was considerably more noncontinuation of ***stimulant*** use in 1992 (49%) than in 1982 (27%), based on the revised usage questions. Earlier data (based on the unrevised questions) suggest that the change began after 1981.

- Much of the recent decline in ***sedative*** use is also accounted for by a changing rate of noncontinuation for the specific substances involved. For example, in the case of ***barbiturates*** the noncontinuation rate rose from 36% in 1979 to 49% in 1992. Similarly in 1980, 24% of the seniors who ever used ***methaqualone*** did not use in the prior year, whereas the comparable statistic by 1992 was more than twice as high (63%).

- ***Tranquilizer*** users showed a steady, gradual increase in their noncontinuation rates between 1975 and 1982, from 38% to 50%. Since 1982 there has not been any further systematic change.

- For ***LSD*** the noncontinuation rate has moved erratically, but in 1992, it fell to its lowest level in ten years (35%).

- Since 1987 there has been a slight increase in the noncontinuation rate for ***smokeless tobacco***.

- ***Steroid*** use appears to have had an increase in noncontinuation in 1992, a year in which there was an increase in the perceived dangers of using steroids.

- It is worth noting that, although ***alcohol*** has always had an extremely low rate of noncontinuation, that rate has been increasing gradually in recent years, likely reflecting the changed norms regarding its use (see Chapter 8) which in turn may reflect the impact of changing the drinking age laws in a number of states.

- Table 17 provides noncontinuation rates for seniors who were more established users–that is, for those who report having used the drug ten or more times in their life. It shows that noncontinuation is far less likely among such heavier users than among all users of a given drug. Further, while the trends in noncontinuation mentioned above for ***marijuana, cocaine, stimulants, barbiturates,*** and ***tranquilizers*** are all similar to trends observed in the noncontinuation rates for heavier users of those same drugs, the percentage fluctuations tend to be considerably smaller among the heavier users.

  The reader is cautioned that the number of cases in each cell in Table 17 is considerably smaller than in most other tables–particularly when overall usage rates are low to start with; therefore the trend data are much more uneven.

- Note that noncontinuation rates for experienced users of ***inhalants*** actually dropped in the late 1970's, probably as a result of the nitrites–which are used at older ages than most of the other inhalants–coming onto the scene.

- Note also the sharp rise in the late 1980's in the noncontinuation rates for ***cocaine*** and ***crack***, even among these more experienced users.

COMPARISONS AMONG SUBGROUPS IN TRENDS IN PREVALENCE: TWELFTH GRADERS ONLY

Trend comparisons are given below for population subgroups defined on the following dimensions: gender, college plans, region of the country, population density, racial/ethnic group, and socioeconomic status. Only the results from twelfth graders will be examined, since there is such a short trend interval available to date for eighth and tenth graders.

Sex Differences in Trends

- Most of the sex differences mentioned earlier for individual classes of drugs have remained relatively unchanged over the past eighteen years–that is, any trends in overall use have been fairly parallel for both males and females. There are, however, some exceptions (tabular data not shown).

- The absolute differences between the sexes in ***marijuana*** use narrowed somewhat between the 1970s and 1980s, although both sexes have seen a similar decline in use since about 1981.

- After 1977, a small sex difference involving ***tranquilizer*** use (males this age had used them less frequently than females) virtually disappeared.

TABLE 17
Trends in Noncontinuation Rates Among Twelfth Graders Who Used Drug Ten or More Times in Lifetime

Percent who did not use in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992
Marijuana/Hashish	4.0	4.0	4.1	3.7	4.6	5.4	7.2	7.6	8.3	8.8	7.8	7.9	9.2	9.9	10.6	12.3	10.5	10.9
Inhalants	—	48.9	42.6	34.6	23.8	25.2	23.8	27.2	23.1	23.4	25.8	15.3	21.1	21.5	25.9	24.0	23.7	28.6
Nitrites[a]																		
Hallucinogens	10.8	16.1	15.2	10.8	8.1	8.4	7.7	7.5	13.0	14.1	12.2	11.1	11.9	16.6	21.8	16.5	17.4	11.5
LSD	15.2	17.3	18.0	12.2	7.4	6.4	7.1	7.5	15.3	12.1	12.6	12.2	11.5	16.0	21.2	16.0	18.5	11.4
PCP[a]																		
Cocaine	7.7	8.2	6.2	3.8	3.1	3.1	3.1	2.9	6.2	3.1	2.5	3.5	7.6	11.4	11.3	19.6	25.3	20.2
Crack[b]	—	—	—	—	—	—	—	—	—	—	—	—	13.4	2.1	5.2	26.2	31.1	15.3
Other Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	10.2	6.1	16.2	18.5	24.3	23.2
Heroin[a]																		
Other Opiates	9.6	11.6	9.7	9.9	8.7	10.8	10.1	13.5	16.4	15.4	12.2	13.8	15.6	19.3	15.2	15.9	16.1	16.8
Stimulants	8.0	9.8	7.6	7.4	6.1	4.1	4.4	8.4	10.7	12.7	17.5	17.6	17.5	16.0	17.4	18.1	17.2	19.8
Crystal Meth. (Ice)[a]																		
Sedatives[c]	13.6	16.2	12.4	12.8	8.6	10.5	7.6	8.6	16.4	20.8	23.6	19.7	23.1	25.2	17.3	—	—	—
Barbiturates	13.4	16.5	12.9	13.5	11.2	11.7	8.9	12.6	17.7	22.8	20.6	19.7	20.7	23.4	18.0	19.8	19.7	23.4
Methaqualone[c]	13.5	15.9	11.9	13.1	6.1	6.0	4.9	8.0	16.3	23.3	26.7	24.9	32.2	29.8	18.6	—	—	—
Tranquilizers	12.0	13.0	11.1	14.4	14.1	14.3	16.3	16.0	14.8	18.8	19.2	15.0	17.1	15.8	11.7	19.3	13.1	21.0
Alcohol	0.6	0.8	0.6	0.9	0.7	0.8	1.0	0.9	0.9	1.1	1.2	1.0	1.1	1.2	1.5	1.9	1.9	2.3
Been Drunk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	—
Steroids[a]																		

NOTE: "—" indicates data not available.

[a]The cell entries in these rows were omitted because they were based on fewer than 50 seniors who used ten or more times. All other cells contain more than 50 cases.
[b]Based on 85 cases in 1987, 54 cases in 1988, and 56 cases in 1989. Crack was included in all six questionnaire forms in 1990-1992.
[c]Based on too few cases in 1990-1992, because this question was asked in only one of the six questionnaire forms.

- The sex differences in ***cocaine*** use were greatest in the peak years of use (1979 through 1986) and have diminished considerably during the decline phase. Although the differences have lessened, males still use more frequently than females. Both sexes showed a decline in ***crack*** use since 1986, the first year for which data are available. Males continue to have higher rates but the difference has narrowed.

- Regarding ***stimulant*** use, a sex difference emerged in 1981 and 1982 using the original version of the question; but the revised question introduced in 1982 showed no sex difference, suggesting that over-the-counter diet pills accounted for higher use among females in those two years. Since 1982 the rates for the two sexes have remained very close over the full ten-year decline.

- Sex differences in the use of ***opiates other than heroin*** have narrowed in recent years to the point where there is little or no sex difference. (Males have always had higher rates of use.)

- While in the mid-1970s females reported higher rates of ***tranquilizer*** use than males, the sexes have had nearly identical rates since 1978.

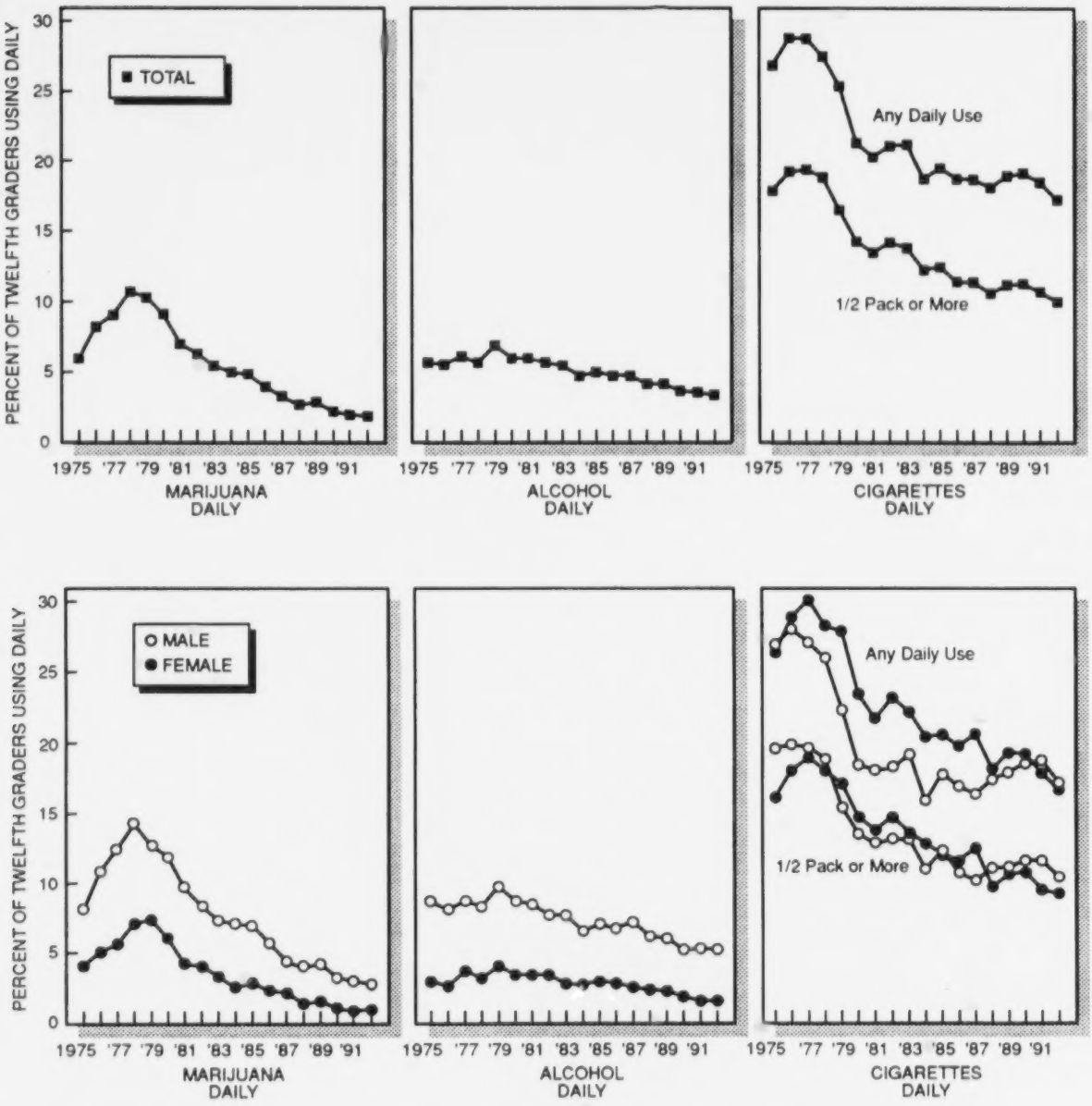
- An examination of the trends in the proportion of each sex using ***any illicit drug*** in the prior year (see Figure 12) shows that use among males rose between 1975 and 1978, and then declined steadily (from 59% to 29% in 1992). Use among females peaked later (in 1981), increasing from 41% in 1975 to 51% in 1981 and then dropping to 25% by 1992. However, if amphetamine use is deleted from the statistics, female use peaked earlier (in 1979) and then declined as well. Note that the earlier declines for both males and females were attributable largely to the declining marijuana use rates; the later drops were due to decreases in use of the other illicit drugs (primarily cocaine), in addition to marijuana.

- Regarding the apparent parity between the sexes in the levels and trends in the prevalence of use of ***illicit drugs other than marijuana***, when amphetamine use is excluded from the calculations, somewhat differential levels emerge for males vs. females (males are higher), although the trends tend to remain fairly parallel.

- The sex differences in ***alcohol*** use have narrowed slightly since 1975. For example, the sex differences in annual prevalence have been nearly eliminated. The 30-day prevalence rates for males and females differed by 12.8% in 1975 (75.0% vs. 62.2%, respectively), but that difference was down to 9.0% by 1992 (55.8% vs. 46.8%). And, although there still remain substantial sex differences in ***daily use*** and ***occasions of heavy drinking***, there has been some narrowing of the differences there, too (Figure 11). For example, between 1975 and 1992

FIGURE 10

Trends in Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes for Twelfth Graders
by Total and by Sex



NOTE: Daily use for alcohol and marijuana is defined as use on 20 or more occasions in the past thirty days. Daily use of cigarettes is defined as smoking one or more cigarettes per day in the past thirty days.

FIGURE 11

Trends in Two-Week Prevalence of Heavy Drinking Among Twelfth Graders
by Sex

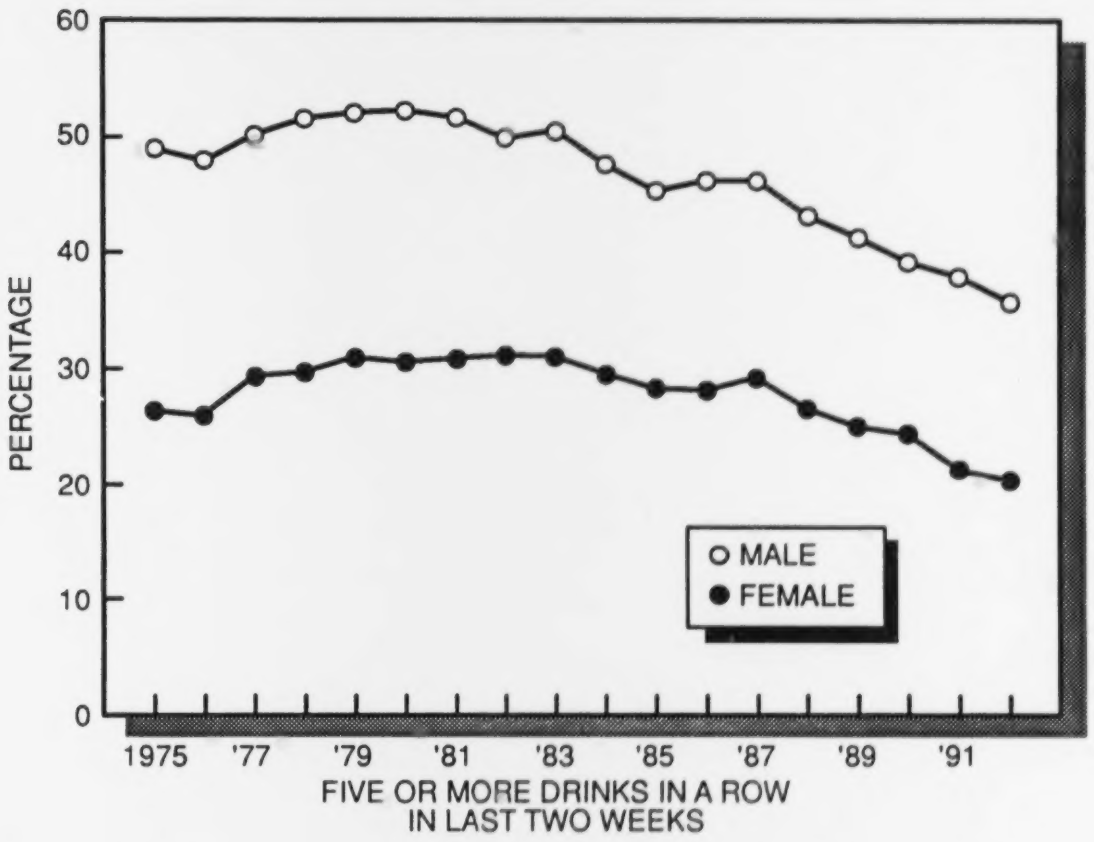
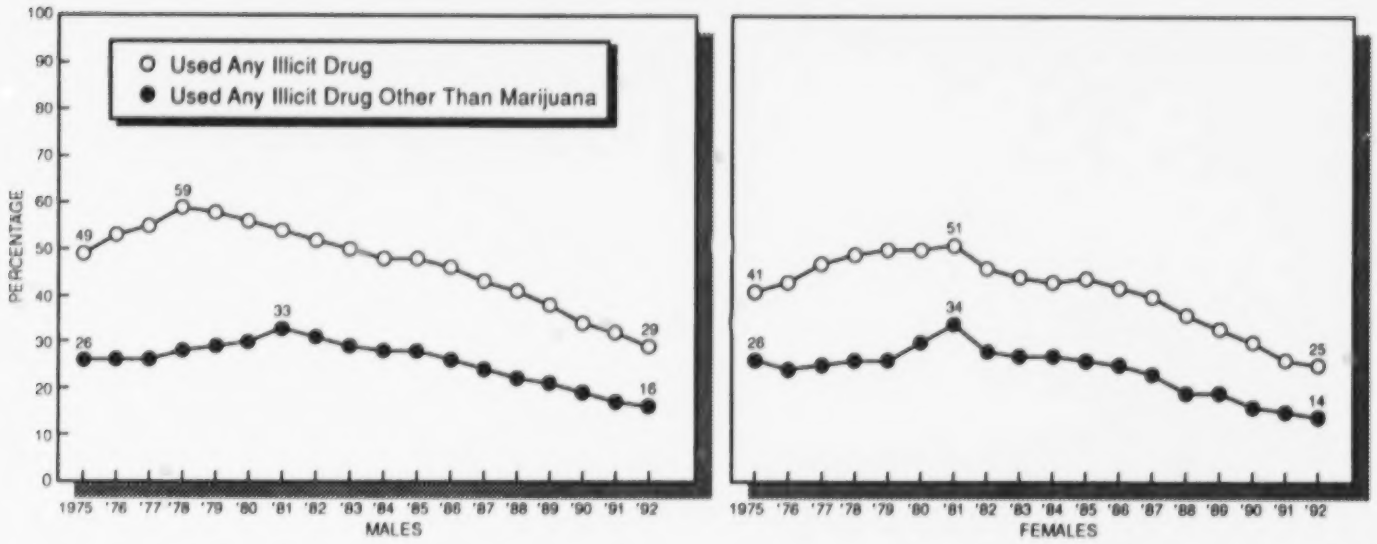


FIGURE 12

Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Sex



NOTE: See Figure 8 for relevant footnotes.

the proportion of males admitting to having five drinks in a row during the prior two weeks showed a net decrease of 13 percentage points (49% to 36%), whereas females decreased by only 6 percentage points, from 26% to 20%.[17]

- On one of the six questionnaire forms used in the study, respondents are asked separately about their use of beer, wine, and hard liquor. The answers to these questions reveal that it is primarily a differential rate of beer consumption that accounts for the large sex differences in occasions of heavy drinking: 34% of 1992 senior males report having ***five or more beers*** in a row during the prior two weeks vs. 18% of the females. Males are only somewhat more likely than females to report having ***five or more drinks of hard liquor*** (20% for males vs. 13% for females) and only slightly more likely to drink ***wine*** that heavily (7% for males vs. 5% for females). This pattern–a large sex difference in heavy use of beer, a smaller difference in heavy use of hard liquor, and very little difference in heavy use of wine–has been present throughout the study, with little systematic change over time. More recently questions on ***wine coolers*** were added; 10% of both males and females drank five or more in a row in the past two weeks.

- In 1976 we observed that, for the first time, females caught up to males in ***daily cigarette smoking*** (see Figure 10). Then, between 1977 and 1981, both sexes showed a decline in the prevalence of such smoking; but use among males dropped slightly more, resulting in females having a higher rate of daily smoking for about twelve years. Since 1988 there has been practically no sex difference in smoking rates however. An examination of Figure 10 shows that in 1992 slightly more males smoke at the half-a-pack per day level and that any daily smoking is as common among males as females (17% for both).

Trend Differences Related to College Plans

- Both college-bound and noncollege-bound students have been showing fairly parallel trends in overall ***illicit drug use*** over the last several years (see Figure 13).[18]

- Changes in use of the ***specific drug classes*** have also been generally quite parallel for the two groups since 1976, with only minor exceptions (data not shown). Between 1983 and 1986 annual ***cocaine***

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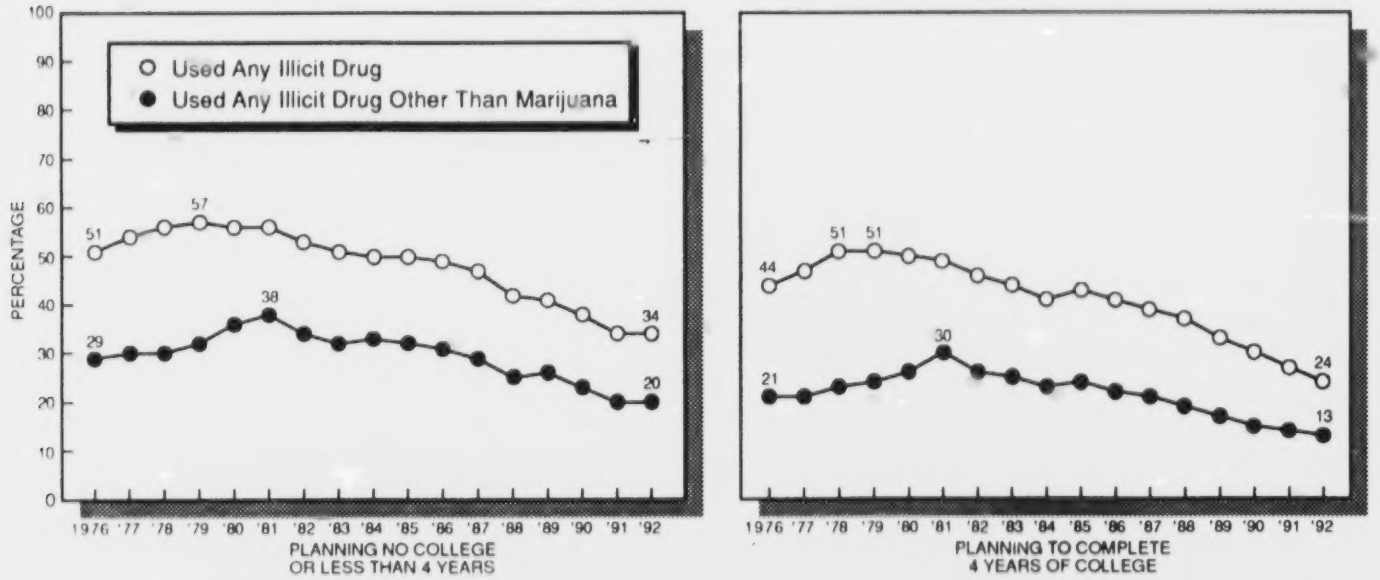
[17] It is worth noting that the same number of drinks produces substantially greater impact on the blood alcohol level of the average female than the average male, because of sex differences in the metabolism of alcohol and body weight. Thus, sex differences in frequency of actually getting drunk may not be as great as the binge drinking statistics would indicate, since they are based on a fixed number of drinks. In 1992, the proportion saying they had "been drunk" in the prior 30 days was 35% for males vs 25% for females, whereas the proportions saying they had five or more drinks in a row in the prior two weeks was 36% for males vs 20% for females. Still, a large sex difference remains.

[18] Because of excessive missing data in 1975 on the variable measuring college plans, group comparisons are not presented for that year.

FIGURE 13

Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by College Plans



NOTE: See Figure 8 for relevant footnotes.

use increased very little among the college-bound, but rose by about one-quarter among the noncollege-bound, perhaps due to the greater popularity of crack among the noncollege-bound. Since 1986 both groups have shown large declines in use, and some convergence in their rates of use.

- In fact, as the overall prevalence of a number of drugs has fallen there has been some convergence of usage rates between the college-bound and noncollege-bound, due to a greater drop among the latter group. This has been true for ***tranquilizers***, ***sedatives, methaqualone, stimulants, barbiturates, nitrite inhalants, hallucinogens, LSD,*** and ***opiates other than heroin.***

- It is worth noting that the non-significant rise in annual prevalence for ***LSD*** in 1992 is due entirely to a rise among the noncollege-bound.

- There has been a modest convergence of the ***binge drinking*** rates of the two groups, though the rate for the college-bound is still considerably lower; and no convergence of the widely disparate rates of ***cigarette smoking***.

Regional Differences in Trends

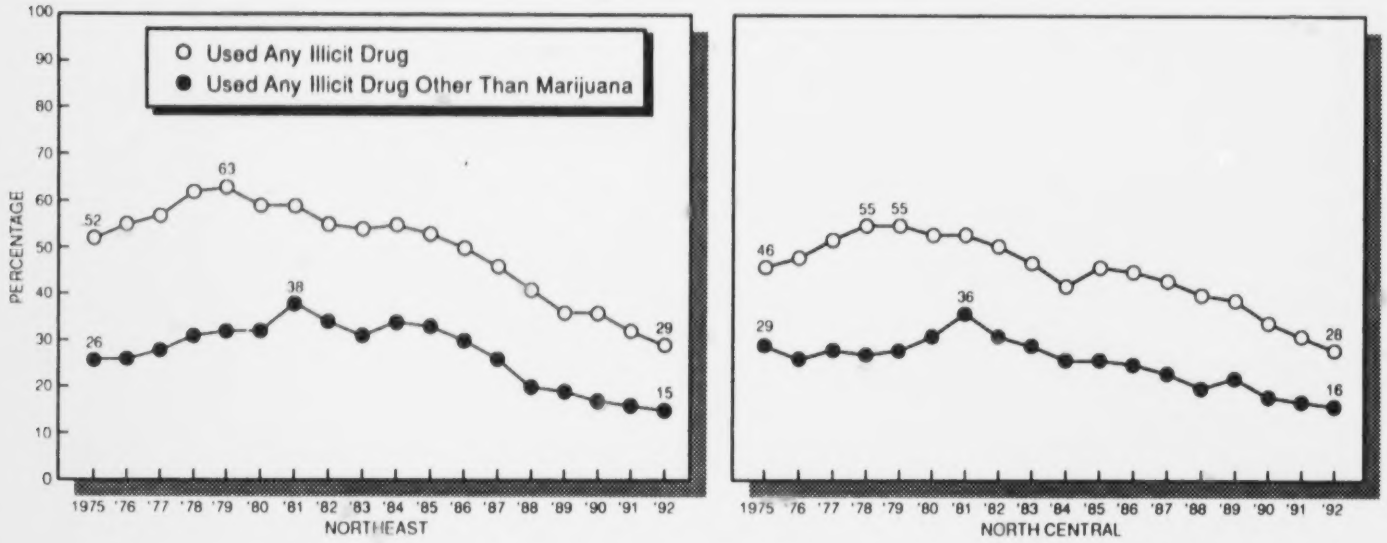
- In all four regions of the country proportions of seniors using ***any illicit drug*** during the year reached their peaks in 1978 or 1979 (Figure 14a), and generally have been falling since then.

- As noted earlier, a major factor in the rise of ***illicit drug use other than marijuana*** was an increase in reported ***amphetamine*** use. The rise in amphetamine use appeared in all four regions; however, the rise in lifetime prevalence from 1978 to 1981 was only 6% in the South, whereas in the other regions the percentages all had risen between 9% and 12%. In essence, the South has been least affected by both the rise and the fall in reported amphetamine use. Then around 1984 and 1985, when the cocaine and crack epidemics were at their peaks, it was the Northeast and the West which were most affected and showed some increase on this index.

- Over the longer term, ***cocaine*** use has shown very different trends in the four regions of the country leading to the emergence of one of the largest regional differences observed for any of the drugs (see Figure 14b for differences in lifetime prevalence trends). In the mid-1970s, there was relatively little regional variation in cocaine use. As the nation's cocaine epidemic grew in the late 1970s, large regional differences emerged: by 1981 annual use had roughly tripled in the West and Northeast; nearly doubled in the North Central; and increased "only" by about 30% in the South. After 1981, this pattern of large regional differences–with the annual prevalence being higher

FIGURE 14a

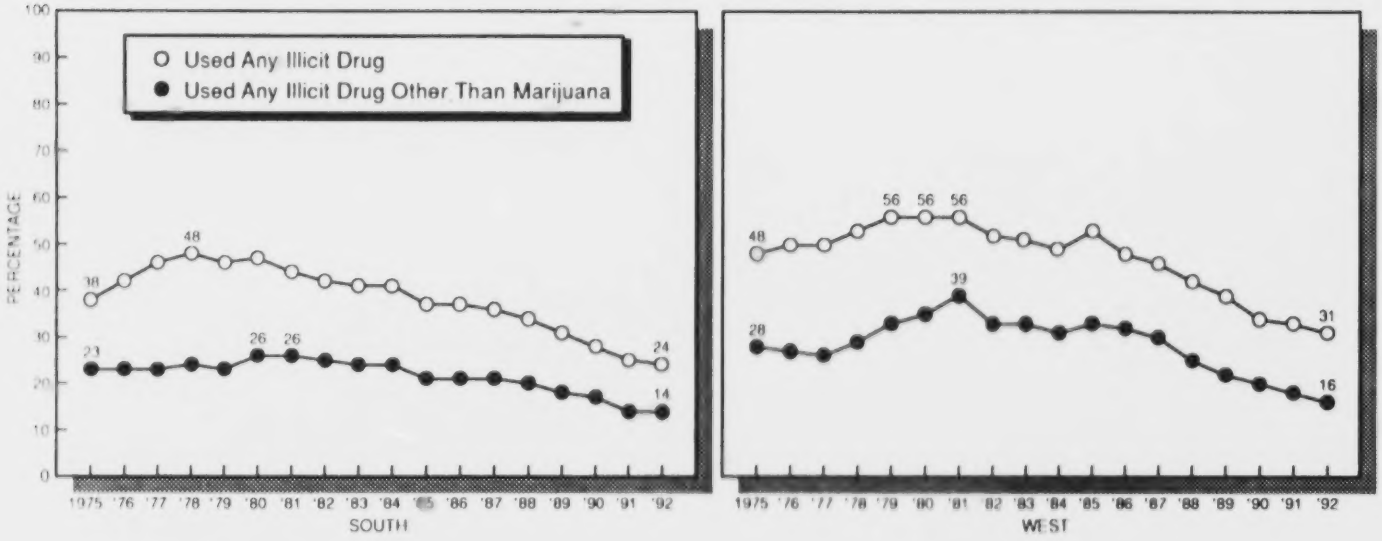
Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Region of the Country



NOTE: See Figure 8 for relevant footnotes.

FIGURE 14a (cont.)

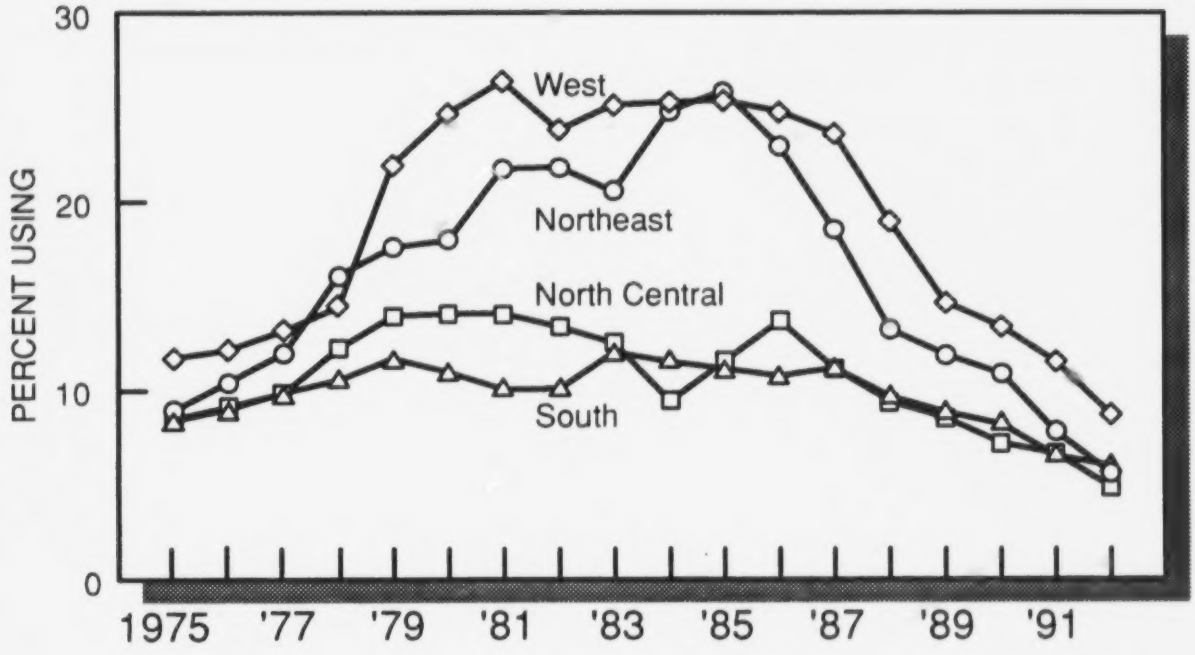
Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Region of the Country



NOTE: See Figure 8 for relevant footnotes.

FIGURE 14b

Trends in Lifetime Prevalence of Cocaine Use for Twelfth Graders
by Region of the Country



in the West and Northeast than in the South and North Central–remained for about six years. However, a sharp decline in the Northeast since 1985, and in the West since 1987, reduced these regional differences very substantially.

- Since ***crack*** use was first measured in 1987, its use has dropped in all four regions, but by far more in the West, which started out considerably higher than the other regions. There is little regional difference remaining today although the West still has the highest rate of use.

- Between 1975 and 1981, sizeable regional differences in ***hallucinogen*** use emerged, as use in the South dropped appreciably. In 1981, both the North Central and the West had annual rates that were about two and one-half times higher than the South (10.3%, 10.4%, and 4.1%, respectively), and the Northeast was three times as high (12.9%). After 1981, hallucinogen use dropped appreciably in all regions except the South, considerably reducing these regional differences.

- Between 1979 and 1982, ***PCP*** use dropped precipitously in all regions, though the drop was greatest in the Northeast which in 1979 had a usage rate roughly double that of all the other regions. In general, PCP use has remained low since 1982 (and without much regional difference).

- All four regions have shown a decline in current ***alcohol*** use and in occasions of ***binge drinking*** since the early 80's.

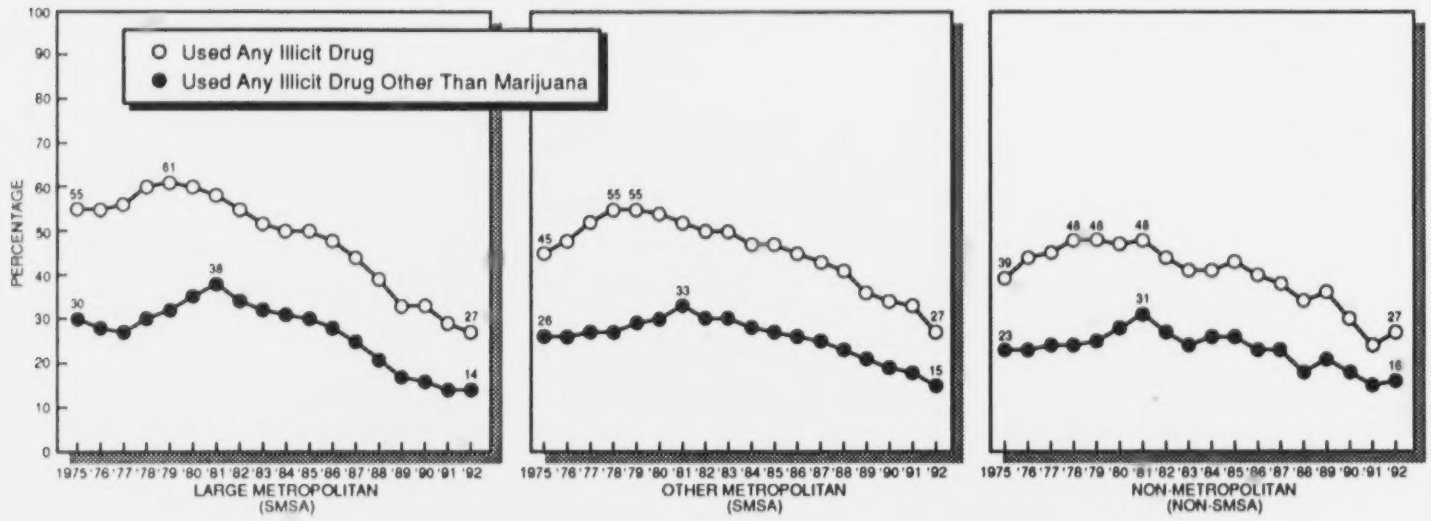
Trend Differences Related to Population Density

- Proportions of seniors using ***any illicit drug*** in all three levels of community size peaked in 1979 (Figure 15a). Although the smaller metropolitan areas and the nonmetropolitan areas never caught up completely with their larger counterparts in their peak levels, they did narrow the gap in usage levels almost completely. Most of that narrowing was due to changing levels of marijuana use, and most of it occurred prior to 1978.

- The overall proportion of twelfth grade students involved in ***illicit drug use other than marijuana*** also peaked in communities of all sizes in 1981 or 1982. Up to 1981, proportions reporting the use of some illicit drug other than marijuana in the last 12 months had been increasing over a four-year period in the very large cities, and over a three-year period in the smaller metropolitan and nonmetropolitan areas. Almost all of this increase is attributable to the rise in reported amphetamine use (which likely is artifactual in part). Since 1983 there has been a fair-sized decline in all three groups in the use of illicit drugs other than marijuana–again largely attributable to changes

FIGURE 15a

Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Population Density



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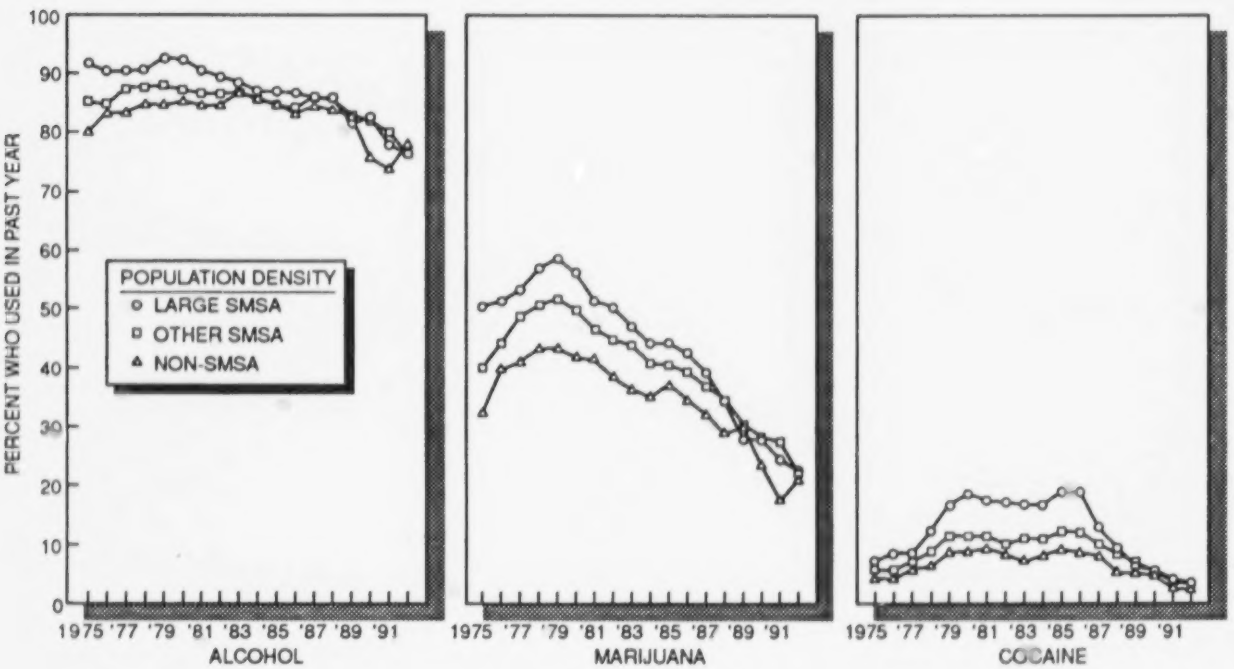
NOTE: See Figure 8 for relevant footnotes.

FIGURE 15b

Trends in Annual Prevalence of Alcohol, Marijuana, and Cocaine Use for Twelfth Graders
by Population Density



in amphetamine use and later to changes in cocaine use. In recent years the large metropolitan areas actually have shown slightly lower rates than the other two strata–a reversal of earlier differences.

- Significant differences among the three levels of urbanicity in use of a number of classes of drugs emerged during years in which use of those drugs was increasing; in recent years, those differences have narrowed, as use rates have declined. Figure 15b shows the trends for annual prevalence of alcohol, marijuana, and cocaine.

- The increase in ***cocaine*** use between 1976 and 1979, although dramatic at all levels of urbanicity, was clearly greatest in the large cities. Between 1980 and 1984, use was fairly stable in all groupings, and in 1985 they all showed a rise in annual prevalence. In 1986 they all stabilized again, and in 1987, began a decline that continues today. Just as the earlier rise had been greatest in the large cities, so was the decline (see Figure 15b). Today there are virtually no differences by urbanicity in cocaine use among seniors.

- ***Crack***, measured for the first time in 1986 (annual prevalence) or 1987 (lifetime prevalence), has shown the largest declines in the large cities. Lifetime prevalence in the large cities is down by 3.9% (from 6.6% in 1987 to 2.7% in 1992); in the smaller metropolitan areas, the decline is 2.6% (from 5.3% to 2.7%); and in the nonmetropolitan areas, the decline is 2.5% (from 4.6% to 2.1%).

- There is evidence of a decline in current ***alcohol*** use in the large cities in recent years–one which has narrowed the differences considerably. For example, 30-day prevalence in the large cities is down by 29 percentage points, from 78% in 1980 to 49% in 1992. During the same interval, the smaller metropolitan areas decreased 20 percentage points (from 71% to 51%) and the nonmetropolitan areas dropped by 15 percentage points (from 69% to 54%).

- In the late 1970s ***PCP*** use was correlated with community size, but since 1981 there has been no consistent relationship.

- ***Marijuana*** use also shows a convergence among the three urbanicity groups by 1989 (Figure 15b). Use has consistently been correlated positively with community size. The greatest differences occurred in one of the peak years of usage, 1978. Since then both the absolute and proportional differences have been diminishing and the more urban areas have exhibited a greater decline.

- In the last half of the 1970s, the use of ***opiates other than heroin*** was consistently highest in the large metropolitan areas and lowest in the nonmetropolitan areas. However, in recent years there has been no consistent difference among these groups.

- The remaining illicit drugs show little systematic variation in trends related to population density.

Differences in Trends by Socioeconomic Status

The measure of socioeconomic status used in this study–namely, the average educational attainment level of the respondents' parents–was described in the previous chapter. Five different strata are distinguished and the students in each graduating class are sorted into those strata based on the educational level of their parents. It should be noted that the overall average educational level of parents of each graduating class has been rising, thus each of the five categories contains a slowly changing proportion of the sample. Figures 16a through 16f show trends for six selected measures of drug use.

- In general there has been little change over time in the relationship between the socioeconomic status (SES) of the family of origin and prevalence rates for most of the drugs.

- ***Marijuana*** use, for example, has had little association with socioeconomic level throughout the life of the study, except that the lowest level of SES has consistently had a slightly lower prevalence rate. All levels have shown similar declines in use since the late 1970's (Figure 16a).

- ***Cocaine*** has shown what is perhaps the largest and most important change in its association with socioeconomic status (Figure 16b). From 1975 through 1981 a strong positive association evolved between cocaine use and SES, with the greatest increase in use occurring in the highest SES group and the least increase in the lowest SES group. From 1981 to 1985 there then followed a decline in use in the top SES levels, while in the lowest SES group there was a substantial increase in use between 1982 and 1985–an increase which may have reflected the introduction of the less expensive form of cocaine, ***crack***.

  The net effect has been that, since 1985, there has been no systematic association between overall cocaine use and socioeconomic status. The strong positive association which existed for roughly eight years disappeared. All SES levels have shown a substantial decrease in cocaine use since 1986.

- Except for the fact that the lowest SES group has consistently been a bit lower in its use of ***LSD*** than the four other strata, there has been little association between SES and the use of this drug over the interval from 1975, when the study began, through about 1984 (Figure 16c). As the overall usage level has begun to increase gradually in the years since 1984, a positive association has emerged, such that the highest SES group is now more than twice as likely as the lowest SES group to have used LSD in the prior twelve months. Put another way, much of

the increase in use which has occurred since 1984 is concentrated in the highest SES groups.

- For a number of drugs there has been little association with SES, and all SES strata have moved in parallel (data not displayed). These include ***barbiturates***, ***tranquilizers***, ***PCP***, (for which measurement began in 1979), and ***crack*** (at least since 1986, the interval for which we have had measurement).

- There generally has been little difference across the five SES categories in reported use of ***inhalants*** (data not shown) although the top stratum has tended to have the highest prevalence rate in most years. All strata have shown parallel increases since 1983.

- There generally have not been large differences between the SES groups in their trends in ***amphetamine*** use, but there have been some slight changes. In recent years (1991 and 1992), the two highest SES groups have the lowest rates of amphetamine use. In earlier years (1976-1990), there was usually a curvilinear relationship, with the two lowest *and* the highest SES groups tending to be low in amphetamine use (Figure 16d).

- The picture for ***alcohol*** use is similar to the one described earlier for marijuana: that is, there is little difference in the annual prevalence rates among the SES strata except that the lowest stratum has a lower prevalence than all the others; and they all move pretty much in parallel (data not displayed). The story for ***binge drinking*** is similar (Figure 16e).

- From 1981 through 1985, ***daily use of cigarettes*** was ordinally and inversely related to SES, with each successively higher SES group smoking less (Figure 16f). Beginning in 1986, this ordinal relationship has held (with only one exception) for the four highest SES groups. The lowest SES group has been smoking less than would have been expected based on earlier data and is very likely due to its racial composition, as will be discussed in the next section. The net result has been that the SES differences have narrowed since 1987, and are now fairly small.

FIGURE 16a

Marijuana: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

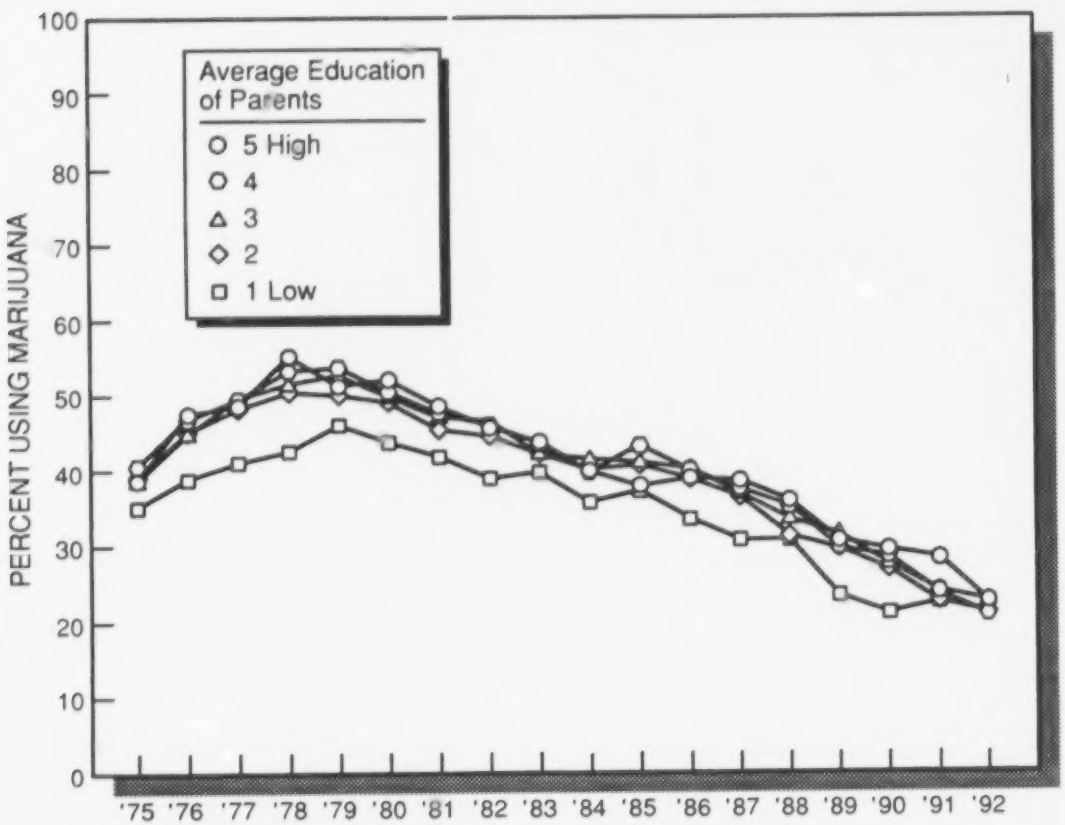


FIGURE 16b

Cocaine: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

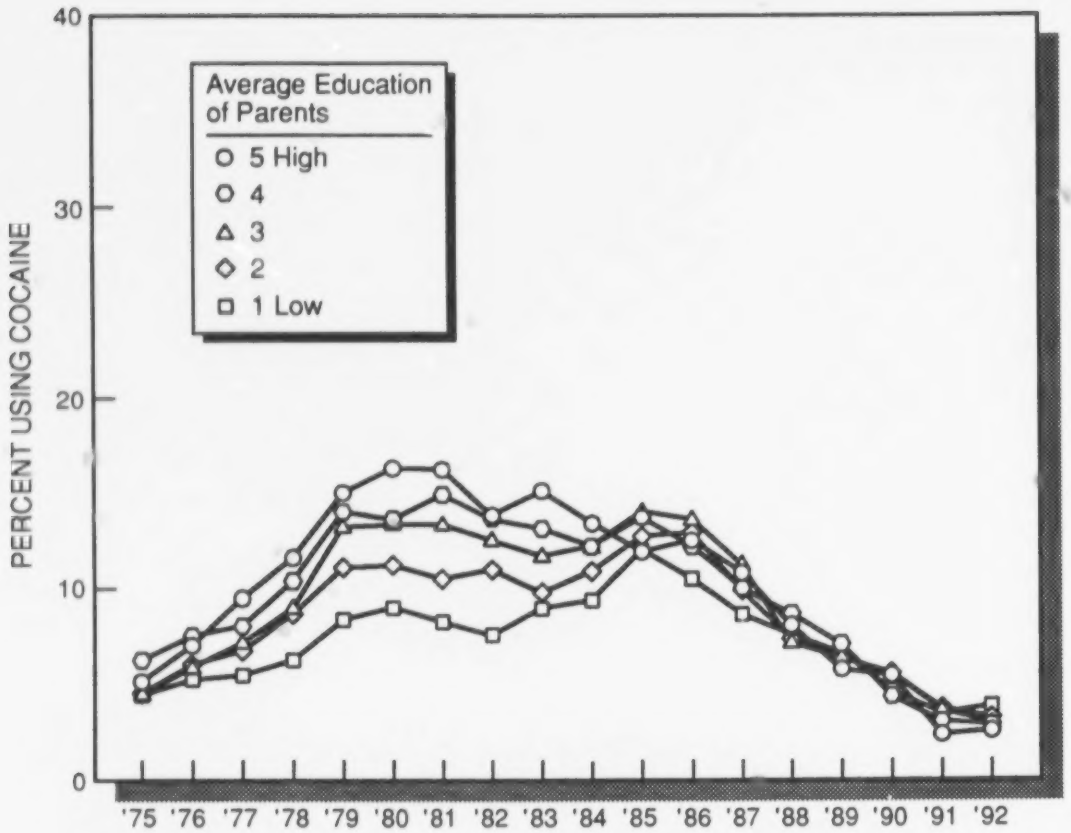


FIGURE 16c
LSD: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

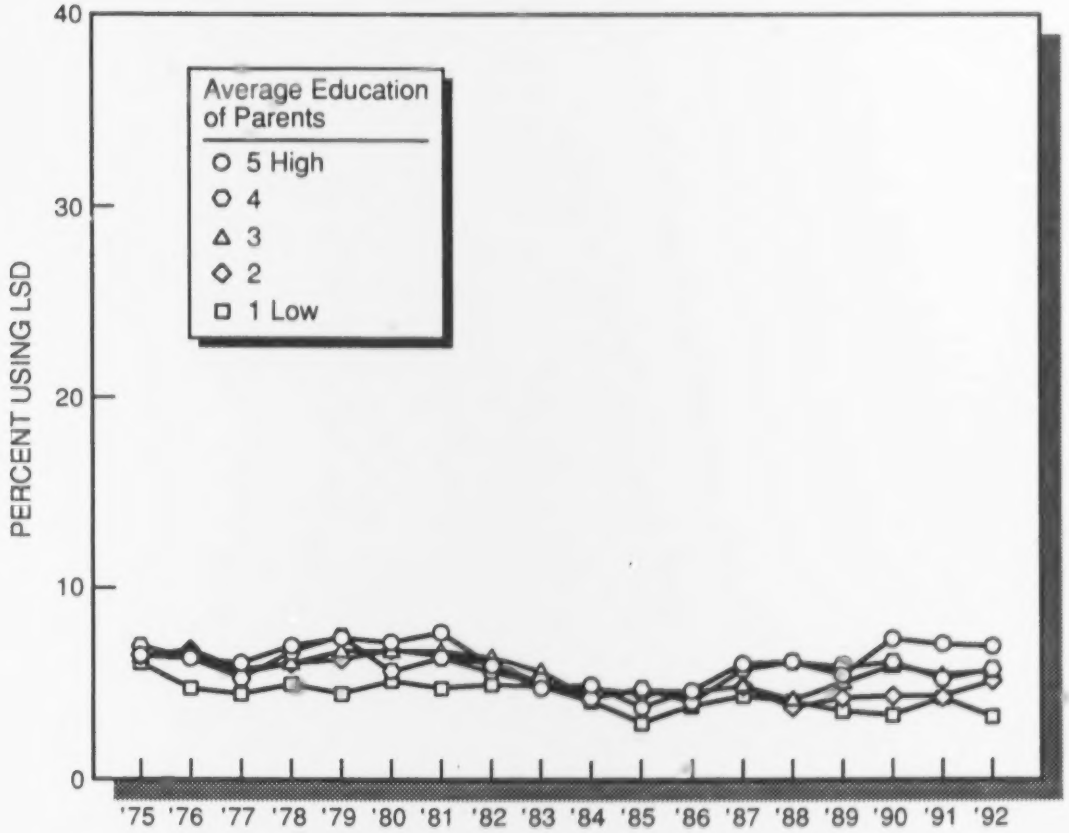
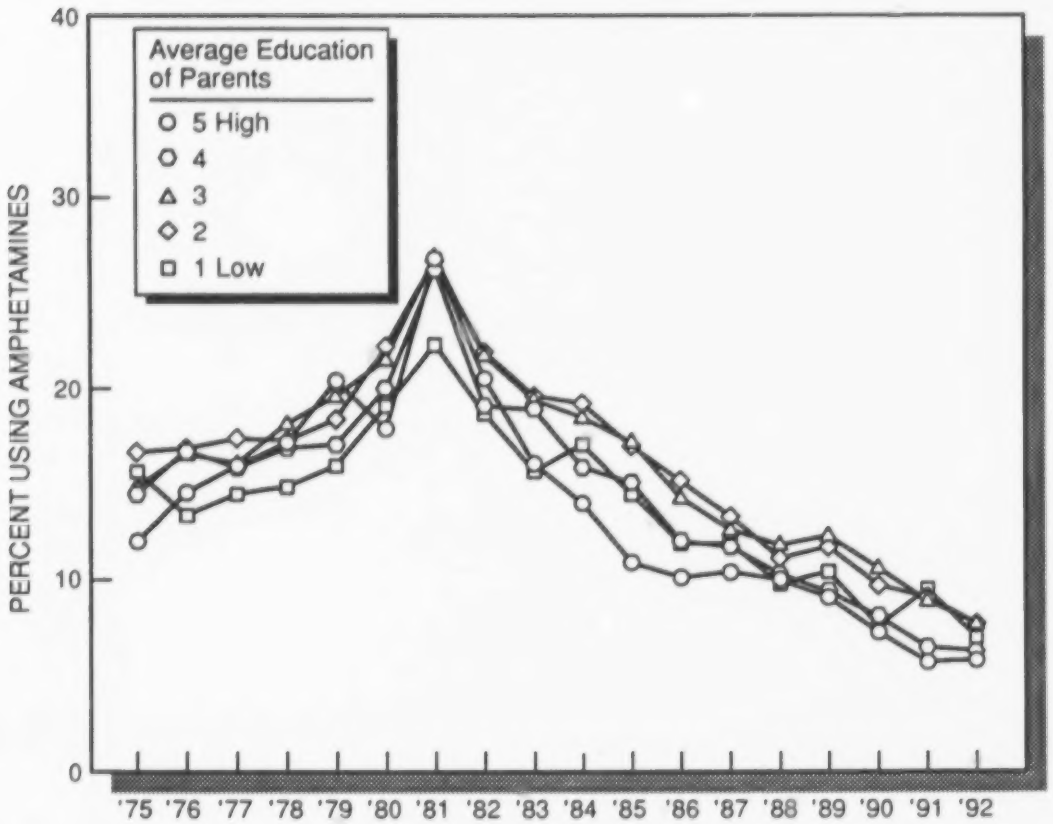


FIGURE 16d

Amphetamines: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders



Note: Beginning in 1982 the question about stimulant use (i.e. amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

FIGURE 16e

Heavy Drinking: Trends in Two-Week Prevalence of 5 or More Drinks in a Row by Average Education of Parents for Twelfth Graders

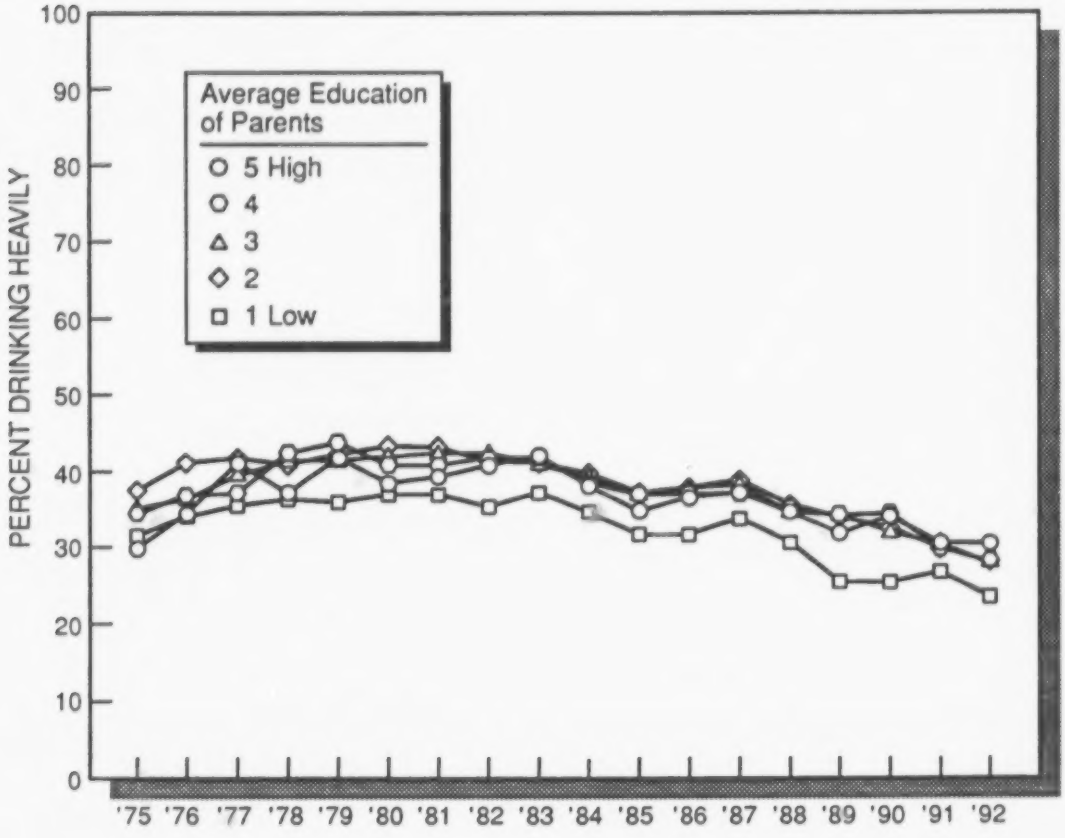
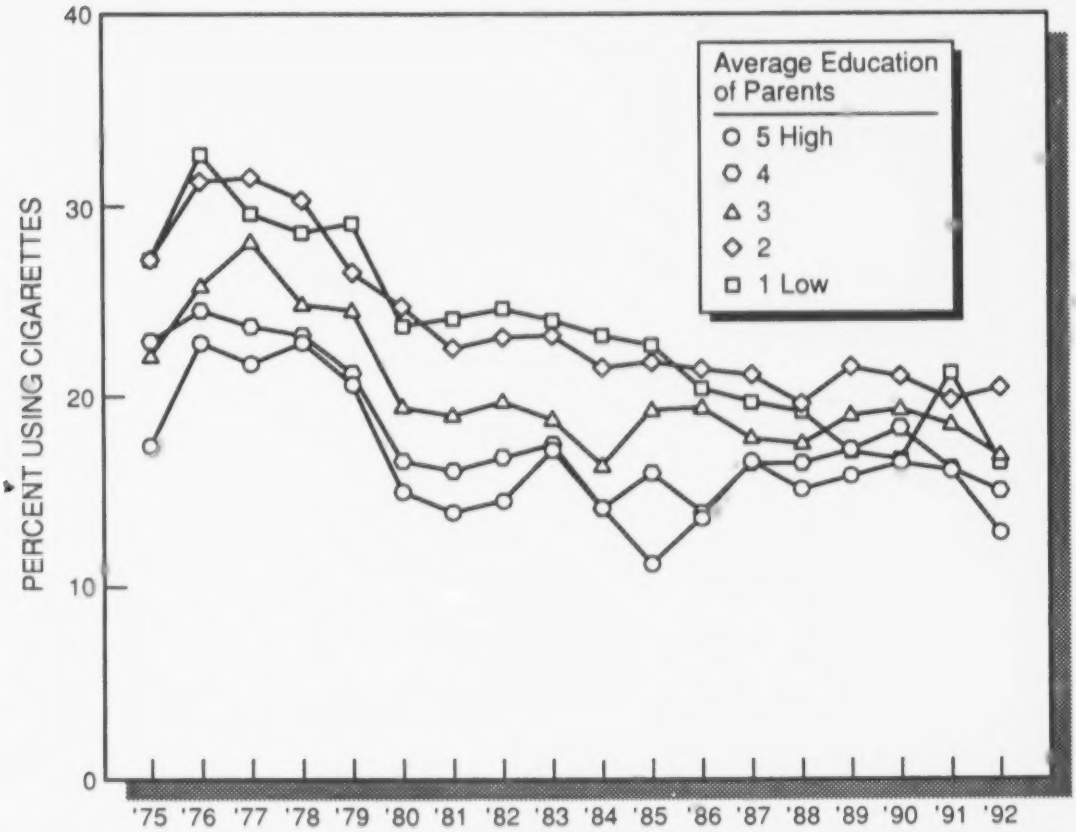


FIGURE 16f

Cigarettes: Trends in Daily Prevalence by Average Education of Parents for Twelfth Graders



Racial/Ethnic Differences in Trends

While the three major racial/ethnic groups examined here–whites, blacks, and Hispanics–have quite different levels of use of some drugs, it appears that their use has trended in similar ways.[19] Data have been examined here for these three groups using two-year moving averages in annual prevalence in order to provide smoother and more reliable trend lines. Even then, they tend to be a bit "bumpy," especially for Hispanics for whom we have the least data and for whom there is a high degree of clustering by school in the sample.

- Figure 17a shows the trends in annual ***marijuana*** use for the three groups, and illustrates that they have generally moved in parallel–particularly during the long decline phase. The upturn in use among Hispanics in the last two annual points may or may not be real–we prefer to have another data point before interpreting it.

- Figure 17a also shows the trends for annual ***cocaine*** use. It shows quite clearly that the rise in cocaine use occurred much more sharply among whites and Hispanics than among blacks. The decline among blacks appears to have begun earlier but, of perhaps greatest importance, all three groups have participated in the sustained decline in cocaine use since 1986.

- The rise in reported ***inhalant*** use (unadjusted for the underreporting of nitrites) occurred about equally in whites and Hispanics from 1975 through 1985, whereupon whites kept rising and Hispanics leveled. (Data not shown.) By way of contrast, blacks started out with half the annual prevalence rate of the other two groups and did *not* show any increase over the next fifteen years, leaving their more recent usage rates at nearly one-third that of whites.

- With regard to ***LSD*** and ***hallucinogens*** in general, blacks have consistently had far lower rates than whites or Hispanics, and whites have consistently had the highest rates.

- Most of the decline in the use of ***stimulants,*** which began in 1982, occurred among whites–primarily because Hispanics started out in 1982 at considerably lower levels and blacks at much lower levels. This decline has reduced the differences among these three groups, although all three groups have shown declines.

- There has been a convergence among these three racial/ethnic groups in their use of ***sedatives, barbiturates, methaqualone,*** and

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[19] A recent article looking at a larger set of ethnic groups used groupings of respondents from adjacent 5-year intervals to get more reliable estimates of trends. See Bachman, J.G., Wallace, J.M. Jr., O'Malley, P.M., Johnston, L.D., Kurth, C.L., & Neighbors, H.W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976-1989. *American Journal of Public Health, 81,* 372-377.

tranquilizers as use of all of these drugs has declined. In general, whites consistently have had the highest usage rates in senior year, and also the largest declines; blacks have had the lowest rates, and therefore the smallest absolute declines.

- ***Crack*** use has declined in all three groups, but in this case Hispanics have generally had the highest rates and blacks the lowest.

- Most of the remaining illicit drugs have shown parallel trends for all three groups.

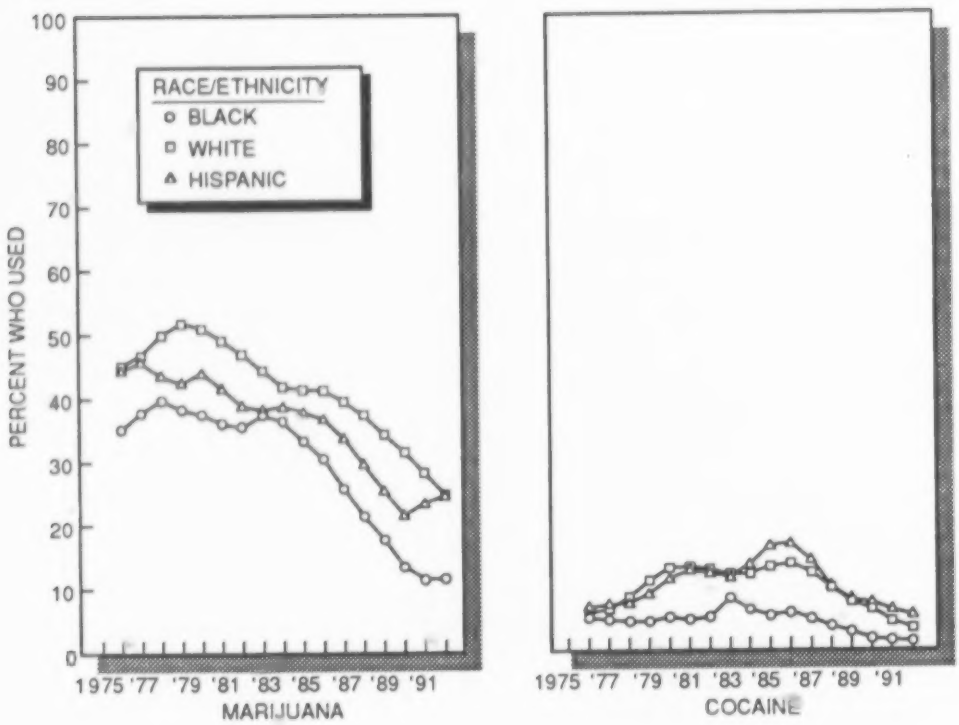
- Like most of the illicit drugs, the ***current daily alcohol*** rates are lowest for blacks. (Data not shown.) They have hardly changed at all during the life of the study. Whites and Hispanics have daily usage rates now which are about equivalent, although whites had higher rates in the period 1977 through 1985.

  There are large racial/ethnic differences in ***binge drinking*** (see Figure 17b) with blacks consistently having a rate below 20% (and now below 15%). In comparison, the rates for whites rose to a peak of around 45% in the early 1980s before declining to under 40% a decade later. Hispanics have been in the middle, and also had a gradual decline in use during the 1980s. Again, the upturn in the most recent two data points for Hispanics may be due to sampling fluctuations–another year's data are needed for confident interpretation.

- ***Cigarette smoking*** shows differential trends that are quite interesting. All three groups had daily smoking rates that were not dramatically different in the late 1970s (Figure 17b). All three groups showed declines between 1977 and 1981, with the declines somewhat stronger for blacks and Hispanics, leaving whites with the highest smoking rates in 1981. Since then, blacks have shown a consistent and continuing decline, and now have a rate of daily smoking that is only about one-fifth that of whites, whose smoking rates changed hardly at all between 1981 and 1992. The 1992 rate of daily smoking for Hispanics is down only slightly since 1981; thus, Hispanics, who previously had slightly lower rates than blacks, now have somewhat higher rates.

FIGURE 17a

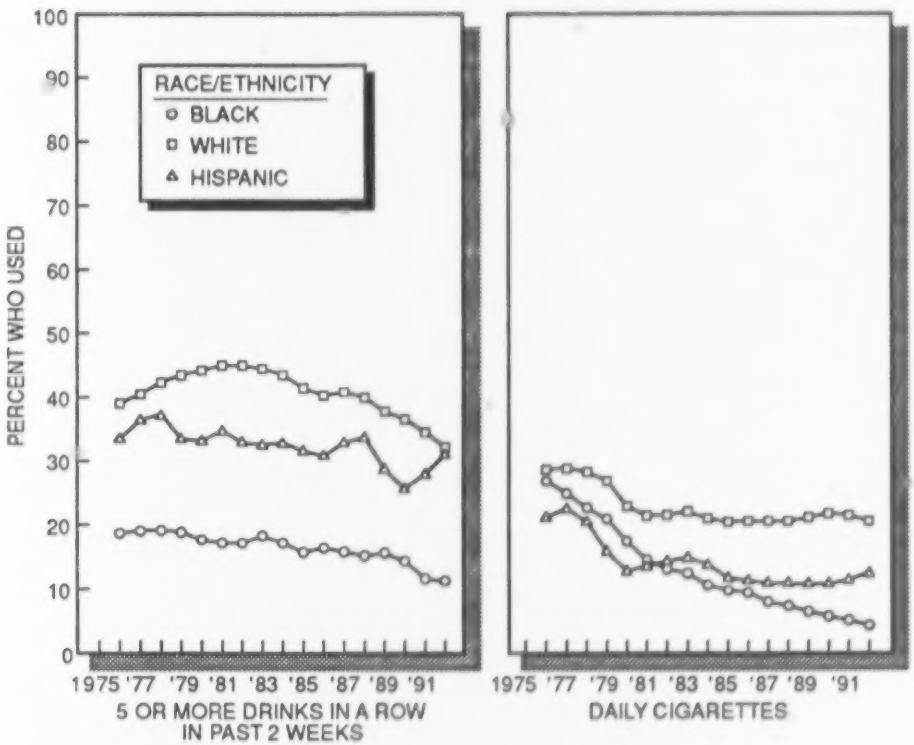
Trends in Annual Prevalence of Marijuana and Cocaine Use for Twelfth Graders
by Race/Ethnicity
(Two-year moving average*)



*Each point plotted here is the mean of the specified year and the previous year.

FIGURE 17b

Trends in Prevalence of 5 or More Drinks in a Row in the Past 2 Weeks and Daily Use of Cigarettes for Twelfth Graders
by Race/Ethnicity
(Two-year moving average*)



*Each point plotted here is the mean of the specified year and the previous year.

Chapter 6

USE AT EARLIER GRADE LEVELS

Knowing the age at which young people first begin to use various drugs is important, in part because it provides a calendar for the planning of interventions in the school, the home, and the larger society. Any such intervention is likely to be considerably less effective in preventing drug use if it is administered after the ages of peak initiation. It also may be less effective if it substantially precedes this decision-making period. Not all drugs are begun at the same age; rather, a certain progression tends to occur, beginning with the drugs which are seen as least risky, deviant, or illegal, and progressing toward those that are more so.

Age of initiation has been ascertained from seniors by a set of questions which have been included in the study since its inception in 1975. The results have been used in this series of monographs to give a retrospective view of trends in lifetime prevalence at earlier grade levels. Because of the long time period these trends span, we continue to include here the series of figures based on seniors' responses, even though we now measure drug usage rates directly from eighth and tenth graders.

One would not necessarily expect today's eighth, tenth, and twelfth graders to give the same retrospective prevalence rate for a drug (say by sixth grade), since there are a number of differences among them. These differences can be summarized as follows:

(1) The lower grades still contain the eventual school dropouts, while twelfth grade does not. The lower grades also have lower absentee rates. Both factors should cause the prevalence rates based on eighth graders to be the highest, other things being equal.

(2) Each class cohort was in sixth grade in a different year, so any secular trend in the use of a drug could contribute to differences in their reports of sixth grade experiences.

(3) The eighth, tenth, and twelfth graders are in three different class cohorts, so any lasting cohort differences could contribute to a difference at any grade level, including sixth grade.

There are also two types of method artifacts which could explain observed differences in the retrospective reports of use by eighth, tenth, and twelfth graders:

(4) Recall may be distorted for older respondents. For example, it could be that the longer the time period over which recall must occur, the later the age at which the initial event will be remembered.

(5) The definition of the eligible event may change as a respondent gets older. Thus, an older student may be less likely to include an occasion of taking a sip from someone's beer as an occasion of alcohol use, or an older student may be more likely to exclude (appropriately) an over-the-counter stimulant when reporting amphetamine use.

While we attempt to ask the questions as clearly as possible, some of these drug definitions are fairly subtle, and may be more difficult for the younger respondents.

INCIDENCE OF USE BY GRADE LEVEL

Tables 18a through 18c give the retrospective initiation as reported by eighth, tenth, and twelfth graders, respectively. Obviously, the older students have a longer time for which they can report initiation. Table 18d puts together the retrospective initiation rates from all three sets of respondents in order to facilitate a comparison of reported initiation rates by particular grades.

- Eighth, tenth, and twelfth grade students all report very low usage rates (below 1%) by the end of sixth grade for ***LSD***, ***cocaine***, and ***heroin***. Fewer than 2% reported any use of ***hallucinogens*** or ***tranquilizers*** and 3% or less reported any use of ***stimulants***. ***Marijuana*** was tried by no more than 4.1% of youngsters by the end of sixth grade. These findings are consistent with what we have been reporting in the past based on the retrospective data from twelfth graders, and gives us much greater confidence in those retrospective reports.

- Of the illicit drugs, only ***inhalants*** show very large differences by age of reporting. While only 2.1% of the twelfth graders report having used inhalants by the end of sixth grade, a much higher 10.5% of the eighth graders report such use by sixth grade. Although any of the explanations offered above might explain these differences, we believe that early inhalant use may be associated with dropping out, and also that the use of types of inhalants generally used at younger ages (glues, aerosols, butane) has been on the rise (i.e., that there has been a secular trend in use).

- ***Alcohol*** use by the end of sixth grade is retrospectively reported by 37% of the 1992 eighth graders, but by only 12% of the 1992 twelfth graders. Several factors probably contribute to the difference. One is a secular trend in which initiation of alcohol use appears to be occurring earlier (see Figure 18s). A second is that eventual dropouts are probably much more likely than average to drink at an early age. Still another is related to the issue of what is meant by "first use." The questions for all grades refer specifically to the first use of "an alcoholic beverage–more than just a few sips," but it is likely that the older students (twelfth graders) are more inclined to report only use that is not adult-approved, and not to count having two or three sips with parents or for religious purposes. Certainly, many more of the twelfth graders will have had a full drink or more. Younger students (eighth graders) are less likely to have had a full drink or more, and may be more likely to report first use of a limited amount. Generally speaking,

younger students tend to respond to questions in a more literal fashion, and this too may help account for the much higher proportion reporting use at an early age. Thus, the eighth grade data probably exaggerate considerably the phenomenon of having more than a few sips, whereas the twelfth grade data do not. Note that as we ask about lifetime alcohol use by the upper grade levels, the data from the three groups of respondents converge.

- A fair number from all three grade levels indicate having ***gotten drunk*** by the end of sixth grade (between 4% and 9%), and much of the difference may be attributable to the differential inclusion of eventual dropouts.

- Even larger proportions indicate having had their first ***cigarette*** by the end of sixth grade (from 18% to 29%). Again, because educational attainment is very highly correlated with smoking, the differential inclusion of eventual dropouts could account for most of the difference.

- Clearly the legal drugs are the most likely to be initiated at an early age, with ***inhalants*** and ***marijuana*** likely to come next.

- The peak ages for initiation of ***cigarette*** smoking appear to be in the sixth and seventh grade, but with a considerable amount occurring even earlier. In fact, 19% of the 1992 eighth grade respondents reported having their first cigarette by fifth grade.

- ***Smokeless tobacco*** use also tends to be initiated quite early, as Tables 18a, 18b, and 18c illustrate.

- For ***alcohol***, we are more inclined to rely on the data from seniors, which suggest that the peak ages of initiation are in seventh through ninth grade. The first occasion of ***drunkenness*** is most likely to occur in grades 7 through 10 (which is also when the first ***marijuana*** use is most likely to occur). Still according to the 1992 eighth graders, some 9% of them reported having been drunk by the end of sixth grade.

- ***Inhalant*** use tends to occur early, with peak initiation rates in grades 6 through 9. Among eighth graders in 1992, some 7% had already tried inhalants prior to sixth grade.

- The illicit drugs other than marijuana and inhalants do not reach peak initiation rates until the high school years (grades 10 through 12), consistent with the progression model noted earlier.

TABLE 18a

Incidence of Use for Various Types of Drugs, by Grade
Eighth Graders, 1992

(Entries are percentages)

Grade in which drug was first used	Marijuana	Inhalants	Hallucinogens	LSD	Cocaine	Crack	Coke Powder	Heroin	Stimulants	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)	Smokeless Tobacco	Steroids
4th	0.9	4.0	0.3	0.1	0.3	0.1	0.1	0.1	0.4	0.6	12.3	1.8	10.3	0.7	4.9	0.2
5th	0.9	2.5	0.1	0.1	0.3	0.2	0.3	0.1	0.8	0.2	8.9	1.9	8.4	1.1	2.8	0.0
6th	2.3	4.0	0.7	0.5	0.3	0.2	0.3	0.3	1.8	0.6	15.5	4.8	10.5	2.2	3.6	0.3
7th	3.6	4.0	1.5	1.2	1.1	0.7	0.9	0.6	3.8	1.5	20.2	10.1	11.2	3.7	5.5	0.8
8th	3.4	2.9	1.3	1.2	0.8	0.5	0.8	0.3	4.0	1.1	12.4	8.3	4.7	2.7	4.0	0.5
Never used	88.8	82.6	96.2	96.8	97.1	98.4	97.6	98.6	89.2	95.9	30.7	73.2	54.8	89.5	79.3	98.3

NOTE: All drugs were asked about in both questionnaire forms except for the following: hallucinogens, LSD, heroin, stimulants, barbiturates, tranquilizers, and smokeless tobacco which were in one form only. The approximate N for both forms was 18,600.

TABLE 18b

Incidence of Use for Various Types of Drugs, by Grade
Tenth Graders, 1992

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants	Hallucinogens	LSD	Cocaine	Crack	Coke Powder	Heroin	Stimulants	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)	Smokeless Tobacco	Steroids
4th	0.7	2.6	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.2	7.6	1.3	8.0	0.5	4.9	0.0
5th	0.5	1.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	4.4	1.1	6.0	0.5	2.3	0.0
6th	1.5	2.3	0.3	0.2	0.1	0.0	0.1	0.2	0.6	0.2	8.5	3.2	8.5	1.4	3.2	0.0
7th	3.1	2.9	0.7	0.5	0.4	0.1	0.4	0.1	1.8	0.9	15.2	7.0	10.5	2.9	3.5	0.1
8th	4.4	3.2	1.1	1.0	0.9	0.4	0.8	0.2	3.4	1.7	19.7	11.1	9.4	3.6	4.6	0.3
9th	6.3	2.8	2.2	2.2	1.1	0.5	1.0	0.4	4.7	1.9	19.6	16.0	7.9	4.5	5.0	0.7
10th	4.9	1.6	2.0	1.8	0.7	0.4	0.6	0.2	2.4	1.1	7.2	8.0	3.2	2.8	3.0	0.5
Never used	78.6	83.4	93.6	94.2	96.7	98.5	97.0	98.8	86.9	94.1	17.7	52.3	46.5	83.9	73.4	98.3

NOTE: All drugs were asked about in both questionnaire forms except for the following: hallucinogens, LSD, heroin, stimulants, barbiturates, tranquilizers, and smokeless tobacco which were in one form only. The approximate N for both forms was 14,800.

TABLE 18c

Incidence of Use for Various Types of Drugs, by Grade
Twelfth Graders, 1992

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants[a]	Amyl/Butyl Nitrites	Hallucinogens[a]	LSD	PCP	Cocaine	Crack	Other Forms of Cocaine	Heroin	Other Opiates	Stimulants[b]	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)	Smokeless Tobacco	Steroids
6th	2.4	2.1	0.1	0.2	0.2	0.3	0.1	0.0	0.1	0.1	0.2	0.7	0.5	0.2	0.2	11.7	3.5	17.6	1.8	9.2	0.1
7-8th	7.1	4.8	0.2	1.0	0.9	0.4	0.9	0.4	0.6	0.5	1.1	3.0	1.2	0.3	1.2	25.1	14.8	20.0	5.4	8.5	0.2
9th	7.5	2.9	0.5	1.6	1.5	0.7	1.5	0.6	1.5	0.3	1.4	3.5	1.7	0.4	1.4	21.1	16.1	10.0	4.6	4.3	0.2
10th	6.3	2.7	0.1	2.2	2.2	0.3	1.3	0.5	1.1	0.1	1.4	2.7	1.0	0.2	1.4	14.5	13.6	6.1	3.7	4.1	0.4
11th	5.2	2.3	0.2	2.2	1.9	0.4	1.3	0.6	1.1	0.2	1.4	2.2	0.7	0.2	1.0	10.3	10.1	5.1	3.0	4.4	0.6
12th	4.0	1.7	0.3	1.9	1.8	0.3	1.0	0.5	0.9	0.0	0.7	1.7	0.5	0.2	0.8	4.8	5.4	3.0	1.9	1.8	0.5
Never used	67.4	83.4	98.5	90.8	91.4	97.6	93.9	97.4	94.7	98.8	93.9	86.1	94.5	98.4	94.0	12.5	36.6	38.2	79.6	67.6	97.9

NOTE: Percents are based on three of the six forms (N=approximately 7100) except for cocaine and crack which are based on four of the six forms (N=approximately 9500), inhalants, other forms of cocaine, smokeless tobacco and steroids which are based on two of the six forms (N=approximately 4700), and PCP and nitrites which are based on one of the six forms (N=approximately 2400).

[a]Unadjusted for known underreporting of certain drugs. See text for details.
[b]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 18d

Incidence of Use for Various Types of Drugs: A Comparison of Responses from Eighth, Tenth, and Twelfth Graders, 1992

(Entries are percentages)

Grade level of respondents	Marijuana	Inhalants	Hallucinogens	LSD	Cocaine	Heroin	Stimulants	Tranquilizers	Alcohol	Getting Drunk	Cigarettes	Cigarettes (Daily)
	Percent who used by end of 6th grade											
8th	4.1	10.6	1.1	0.7	0.9	0.5	3.0	1.4	36.7	8.5	29.2	4.0
10th	2.7	6.2	0.4	0.3	0.2	0.3	0.8	0.4	20.5	5.6	22.5	2.4
12th	2.4	2.1	0.2	0.2	0.1	0.1	0.7	0.2	11.7	3.5	17.6	1.8
	Percent who used by end of 8th grade											
8th	11.1	17.4	3.9	3.1	2.8	1.4	10.8	4.0	69.3	26.9	45.1	10.4
10th	10.2	12.3	2.2	1.8	1.5	0.6	6.0	3.0	55.4	23.7	42.4	8.9
12th	9.5	6.9	1.2	1.1	1.0	0.6	3.7	1.4	36.8	18.3	37.6	7.2
	Percent who used by end of 10th grade											
10th	21.4	16.7	6.4	5.8	3.3	1.2	13.1	6.0	82.2	47.7	53.5	16.2
12th	23.3	12.5	6.0	4.8	3.8	1.0	9.9	4.2	72.4	48.0	53.7	15.5

- For most illicit drugs, half to two-thirds of those who use by twelfth grade initiate use prior to grade 10; this is true for ***heroin*** (75%), ***barbiturates*** (62%), ***inhalants*** (59%), ***PCP*** (58%), ***methaqualone*** (56%), ***nitrites*** (53%), ***marijuana*** (52%), and ***amphetamines*** (52%). One-third to less than one-half of users of ***tranquilizers*** (47%), ***opiates other than heroin*** (44%), ***cocaine*** (41%), ***crack*** (38%), and ***LSD*** (30%) initiated prior to grade 10.

- Finally, those few students who use ***steroids*** tend to initiate their use rather late compared to the other drugs. Among seniors, most initiation (75%) occurred after ninth grade.

TRENDS IN USE AT EARLIER GRADE LEVELS

Using the retrospective data provided by members of each senior class concerning their grade at first use, it is possible to reconstruct lifetime prevalence trend curves for lower grade levels over earlier years. Obviously, data from school dropouts are not included in any of the curves. Figures 18a through 18x show the reconstructed lifetime prevalence curves for earlier grade levels for a number of drugs.

- Figure 18a provides the trends at each grade level for lifetime use of ***any illicit drug***. It shows that for all grade levels there was a continuous increase in illicit drug involvement through the 1970s. The increase is fortunately quite small for use prior to seventh grade; only 1.1% of the class of 1975 reported having used an illicit drug in sixth grade or below (which was in 1969 for that class), but the figure has increased modestly, and for the graduating class of 1992 is at 3.5% (which was in 1986 for that class). The lines for the other grade levels all show much steeper upward slopes. For example, about 52% of the class of 1982 had used some illicit drug by the end of grade 10, compared to 37% of the class of 1975. It now has fallen back to 29% for the class of 1992.

- Beginning in 1980 there was a leveling off at the high school level (grades 10, 11, and 12) in the proportion becoming involved in illicit drugs. The leveling in the lower grades came about a year earlier.

- Most of the increase in any illicit drug use was due to increasing proportions using marijuana. We know this from the results in Figure 18b showing trends for each grade level in the proportion having used ***any illicit drug other than marijuana*** in their lifetime. Compared to Figure 18d for marijuana use, these trend lines are relatively flat throughout the 1970s and, if anything, began to taper off among ninth and tenth graders between 1975 and 1977. The biggest cause of the increases in these curves from 1978 to 1981 was the rise in reports of amphetamine use. As noted earlier, we suspect that at least some of this rise is artifactual. If amphetamine use is removed from the

calculations, even greater stability is shown in the proportion using ***illicit drugs other than marijuana*** or ***amphetamines***. (See Figure 18c.)

- As can be seen in Figure 18d, for the years covered across the decade of the 1970s, ***marijuana*** use had been rising steadily at all grade levels down through the seventh and eighth grades. Beginning in 1980, lifetime prevalence for marijuana began to decline for grades 9 through 12. Declines in grades 7-8 began a year later, in 1981.

  There was also some small increase in marijuana use during the 1970s at the elementary level, prior to seventh grade. Use by sixth grade or lower rose gradually from 0.6% for the class of 1975 (who were sixth graders in 1968-69) to a peak of 4.3% in the class of 1984 (who were sixth graders in 1977-78). Use began dropping thereafter and for the class of 1992 is down to 2.4%. (The more up-to-date data from the 1992 eighth graders, which are not exactly comparable because of the inclusion of eventual dropouts, yield a prevalence estimate of 4.1% for these students when they were sixth graders in 1990.)

- Questions about age at first use for ***inhalants*** (unadjusted for the nitrites) were introduced in 1978. The retrospective trend curves (Figure 18e) suggest that during the mid-1970s, experience with inhalants decreased slightly for most grade levels and then began to rise. For the upper grade levels there was a continued rise, peaking with the classes of 1989 and 1990. The class of 1992 has shown lower rates of initiation than its two predecessor classes at all grade levels.

- Since grade-at-first-use data have been gathered for the ***nitrites*** beginning in 1979, only limited retrospective data exist (Figure 18f). These do not show the recent increase observed for the overall inhalant category. Instead they show a substantial decline. Because their use level has gotten so low, their incorrect omission by respondents from their reports of overall inhalant use has much less effect on the latter in recent years than it did when nitrite use was more common.

- Lifetime prevalence of ***hallucinogen*** use (unadjusted for underreporting of PCP) began declining among students at most grade levels in the mid-1970s (Figure 18g), and this gradual decline continued through the mid-1980s, reaching low points at several grade levels for the class of 1986. Recent classes have shown some fluctuations.

- Trend curves for ***LSD*** (Figure 18h) are similar in shape (though at lower rates, of course), except that recent classes have shown a very gradual increase in incidence rates. Incidence rates for ***psychedelics other than LSD*** (data not presented) have shown some decreases in incidence rates in recent classes, resulting in little net change between the classes of 1986 and 1992 in overall hallucinogen incidence rates.

- While there is less trend data for ***PCP***, since questions about grade of first use of PCP were not included until 1979, some interesting results emerge. A sharp downturn began around 1979 (see Figure 18i), and use has declined in all grade levels since, though proportionately more in the upper grades.

- ***Cocaine*** use at earlier grade levels is given in Figure 18j. One clear contrast to the marijuana pattern is that more than half of initiation into cocaine use takes place in grades 10 through 12 (rather than earlier, as is the case for marijuana). Further, most of the increase in cocaine experience between 1976 and 1980 occurred in grades 11 and 12, not below. After 1980, experience with cocaine generally remained fairly level until after 1987, when use among eleventh and twelfth graders began to show a significant decline.

- Questions on age of first use for ***crack*** were first asked of the class of 1987. The retrospective data show crack initiation falling at all grade levels but the largest proportional declines occurred in the last few years for grades 11 and 12 (see Figure 18k). However, ***powder cocaine*** clearly fell more sharply than crack (see Figure 18l).

- Though difficult to see in Figure 18m, the ***heroin*** lifetime prevalence figures for grades 9 through 12 all began declining in the mid-1970s, then leveled, and show no evidence of reversal yet.

- The lifetime prevalence of use of ***opiates other than heroin*** has remained relatively flat at all grade levels since the mid-1970s, with the class of 1991 showing the first evidence of decline when they reached the upper grades (Figure 18n).

- The lifetime prevalence statistics for ***stimulants*** peaked briefly for grade levels 9 through 12 during the mid-1970s (see Figure 18o). However, it showed a sharp rise in the late 1970s at virtually all grade levels. As has been stated repeatedly, we believe that some–perhaps most–of this upturn was artifactual in the sense that nonprescription stimulants accounted for much of it. However, regardless of what accounted for it, there was a clear upward secular trend–that is, one observed across all cohorts and grade levels–beginning in 1979. The unadjusted data from the class of 1983 gives the first indication of a reversal of this trend. The adjusted data from the classes of 1982 through 1992 suggest that the use of stimulants leveled around 1982 and has fallen appreciably since in grades 9 through 12. There is less evidence of a decline in lifetime prevalence among seventh and eighth graders.

- As the graphs for the two subclasses of sedatives–barbiturates and methaqualone–show, the trend lines have been quite different for them at earlier grade levels as well as in twelfth grade (see Figures 18p and 18q). Since about 1974 or 1975, lifetime prevalence of ***barbiturate*** use had fallen off sharply for the upper grade levels for all classes until the late 1970s; the lower grades showed some increase in the late 1970s (perhaps reflecting the advent of some look-alike drugs) and in the mid-1980s all grades resumed the decline. Most recently there is some leveling in the rates.

  During the mid-1970s ***methaqualone*** use started to fall off at about the same time as barbiturate use in nearly all grade levels, but dropped rather little and then flattened. Between 1978 and 1981 there was a fair resurgence in use in all grade levels; but since 1982 there has been a sharp and continuing decline to near zero.

- Lifetime prevalence of ***tranquilizer*** use (Figure 18r) also began to decline at all grade levels in the mid-1970s. It is noteworthy that, like sedatives, the overall decline in tranquilizer use has been considerably greater in the upper grade levels than the lower ones. Overall, it would appear that the tranquilizer trend lines have been following a similar course to those of barbiturates. So far, the curves are different only in that tranquilizer use continued a steady decline among eleventh and twelfth graders since 1977 (at least through the class of 1990), while barbiturate use had its decline interrupted for awhile in the early 1980s.

- The curves for lifetime prevalence of ***alcohol*** at grades 11 and 12 (Figure 18s) are very flat between the early 1970s and late 1980s, reflecting little change over more than a decade. More recent classes (1989-1992) show slight declines. At the seventh through tenth grade levels, the curves show slight upward slopes in the early 1970s, indicating that, compared to the earlier cohorts (prior to the class of 1978), more recent classes initiated use at earlier ages. There was an even sharper upward trending in the mid-1980s, particularly at the seventh through eighth grade level. Thus, while 27% of the class of 1975 first used alcohol in eighth grade or earlier, 37% in the class of 1992 had done so. Females account for most of the change; 42% of females in the class of 1975 first used alcohol prior to tenth grade, compared to 55% in the class of 1992.

  Beginning with the class of 1986, we added questions asking seniors when did they first "drink enough to feel drunk or very high". Figure 18t shows fairly similar curves to those for lifetime use. The most recent two classes (1991 and 1992) have shown modest declines in this behavior at all grade levels above grade six.

- Beginning with the class of 1986, we added questions asking seniors "when did you smoke your first cigarette". Figure 18u shows that initiation rates were quite high by grade 6 (which was in 1980) for the class of 1986 (over 20%), and have fallen only slightly in subsequent classes (18% for the class of 1992, who were in grade 6 in 1986).

  Substantial additional initiation occurs in grades 7 and 8: over 40% of the class of 1986 had smoked a cigarette by grade 8, and this figure stands at 38% for the class of 1992. Initiation has declined very slightly for all grade levels in recent classes.

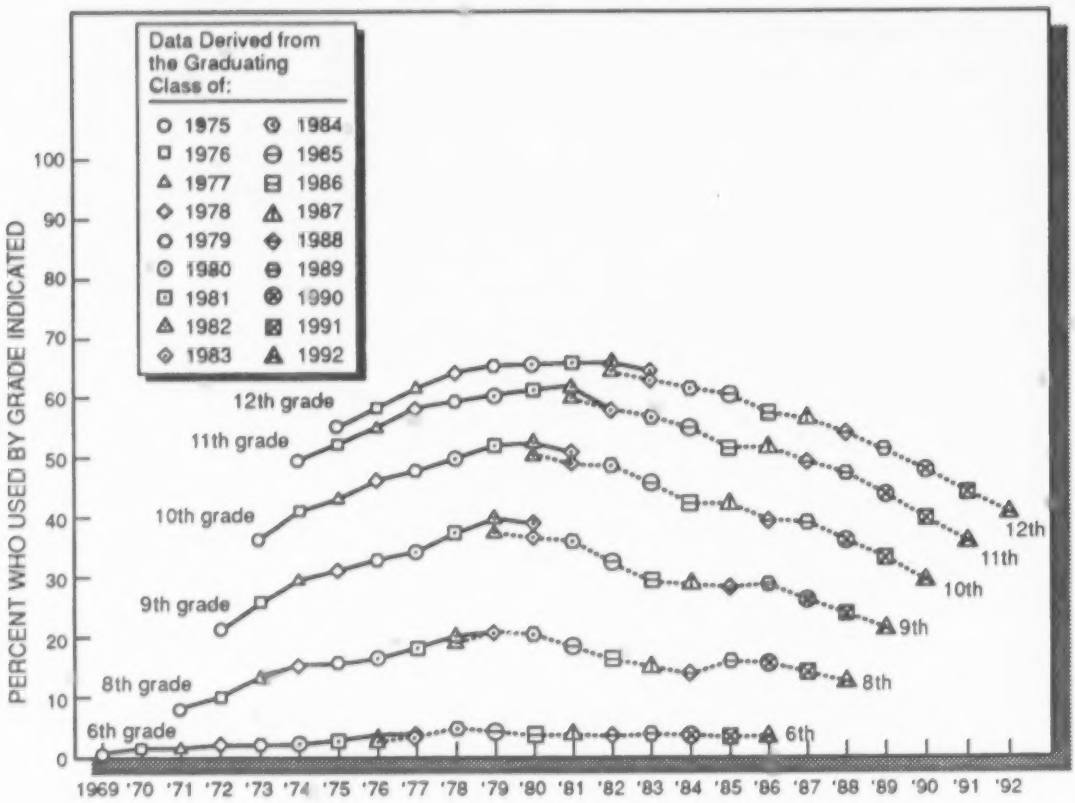
- Figure 18v presents the smoking measure contained in the study since its inception: lifetime prevalence of cigarette smoking on a daily basis. It shows that initiation to ***daily smoking*** was beginning to peak at the lower grade levels in the early to mid-1970s. This peaking did not become apparent among high school seniors until a few years later. In essence, these changes reflect in large part cohort effects–changes which show up consistently across the age band for certain class cohorts. Because of the highly addictive nature of smoking, this is a type of drug-using behavior in which one would expect to observe enduring differences between cohorts if any are observed at a formative age. The classes of 1982 and 1983 showed some leveling of the previous decline, but the classes of 1984 through 1986 showed an encouraging resumption of the decline while they were in earlier grade levels. The data from the classes of 1987 and 1988 showed a pause in the decline; but the classes of 1989, 1990, and 1991 have unfortunately shown a new *rise* in the lifetime prevalence of daily cigarette use as they passed through all grade levels. This rise is first discernible when these class cohorts were in eighth grade (between 1984 and 1987). The class of 1992 did not continue this rise, however.

- ***Smokeless tobacco*** use (Figure 18w) was first asked of the class of 1986. The intervening classes have had quite level rates of lifetime prevalence by grade 9 and higher, though there has been a slight increase in grade 8 and lower, suggesting a slightly earlier age of initiation.

- ***Steroid*** use was first asked of the class of 1989. Since then the three subsequent classes have shown about a one-third drop in rates at grade 9 and each higher grade (Figure 18x).

FIGURE 18a

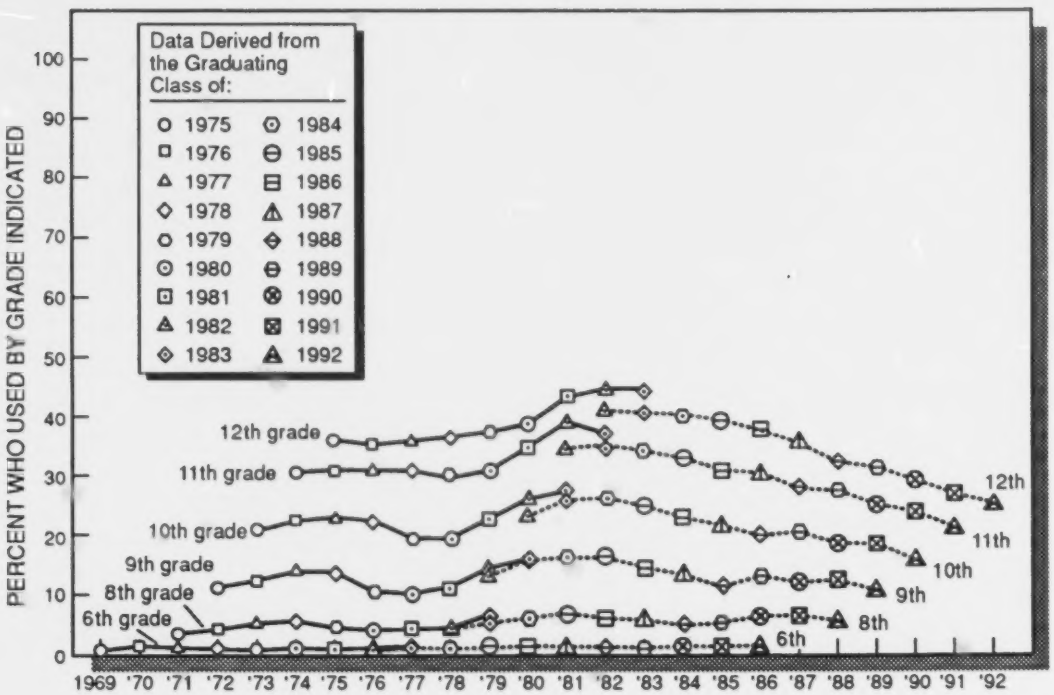
Use of Any Illicit Drug: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18b

Use of Any Illicit Drug Other Than Marijuana:
Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18c

Use of Any Illicit Drug Other Than Marijuana or Amphetamines: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

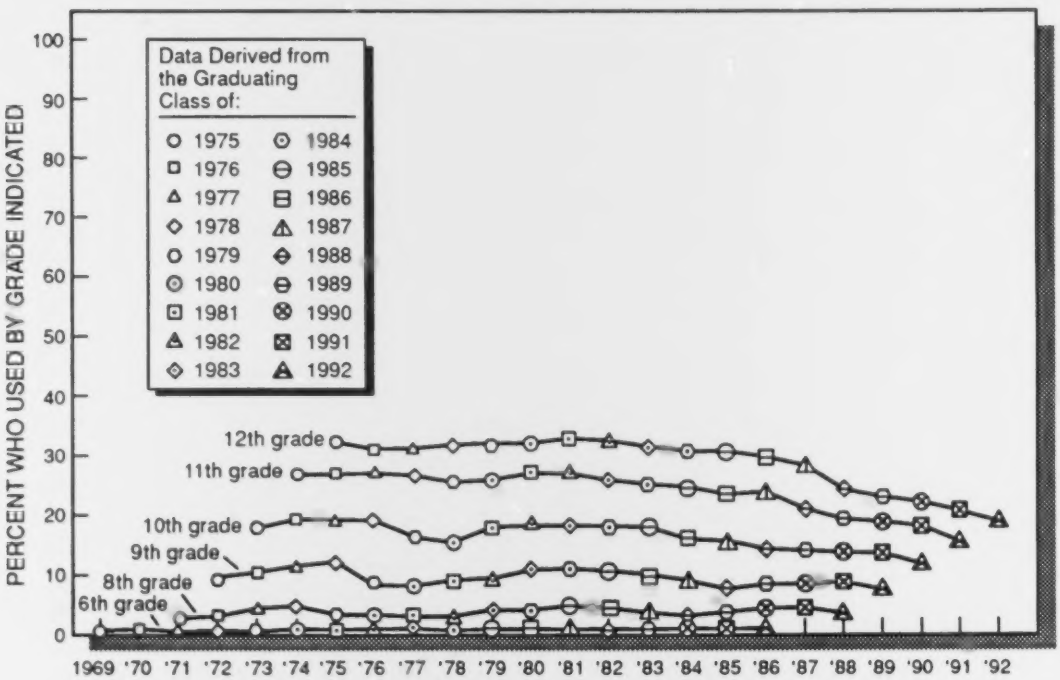


FIGURE 18d

Marijuana: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

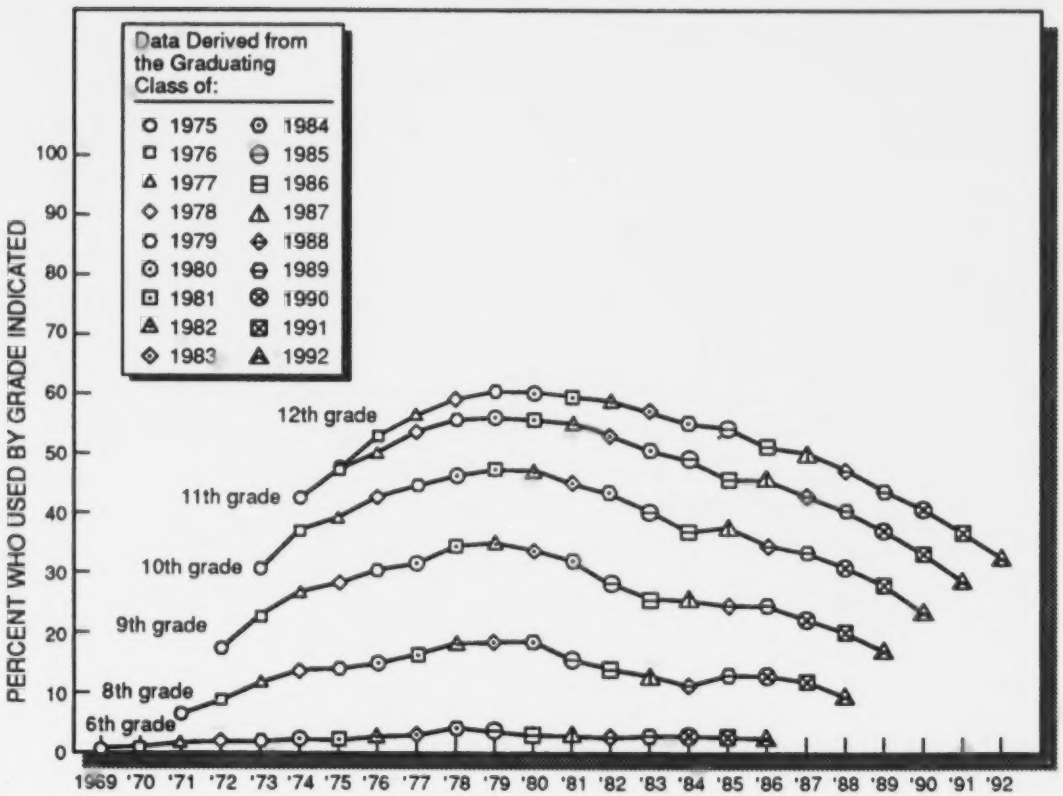


FIGURE 18e

Inhalants: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

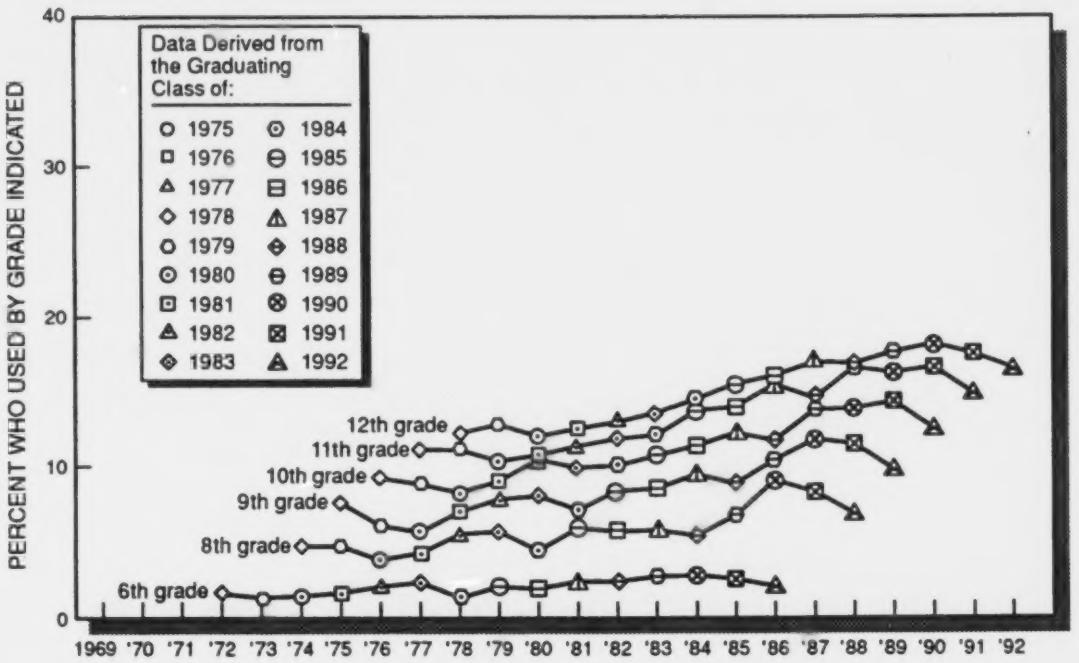


FIGURE 18f

Nitrites: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

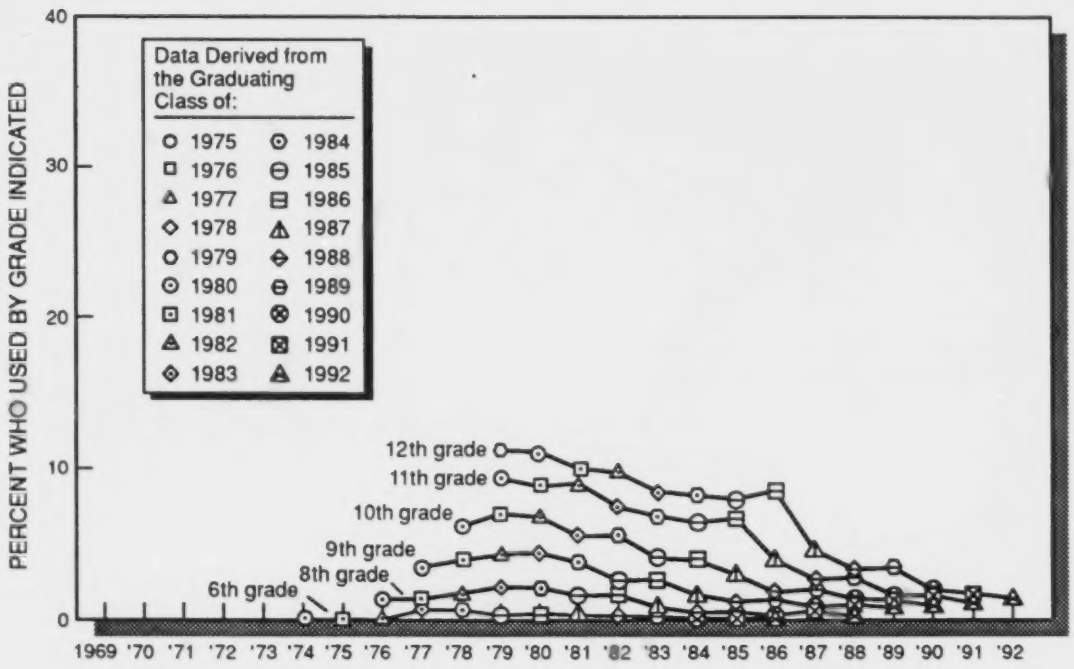


FIGURE 18g

Hallucinogens: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

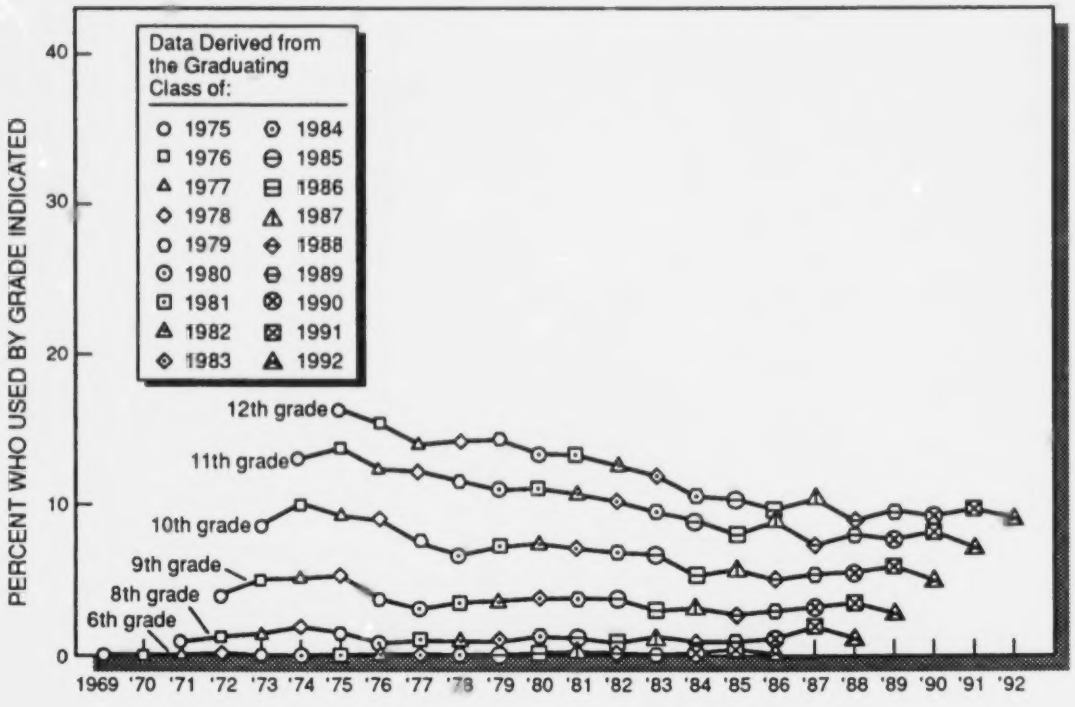


FIGURE 18h

LSD: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

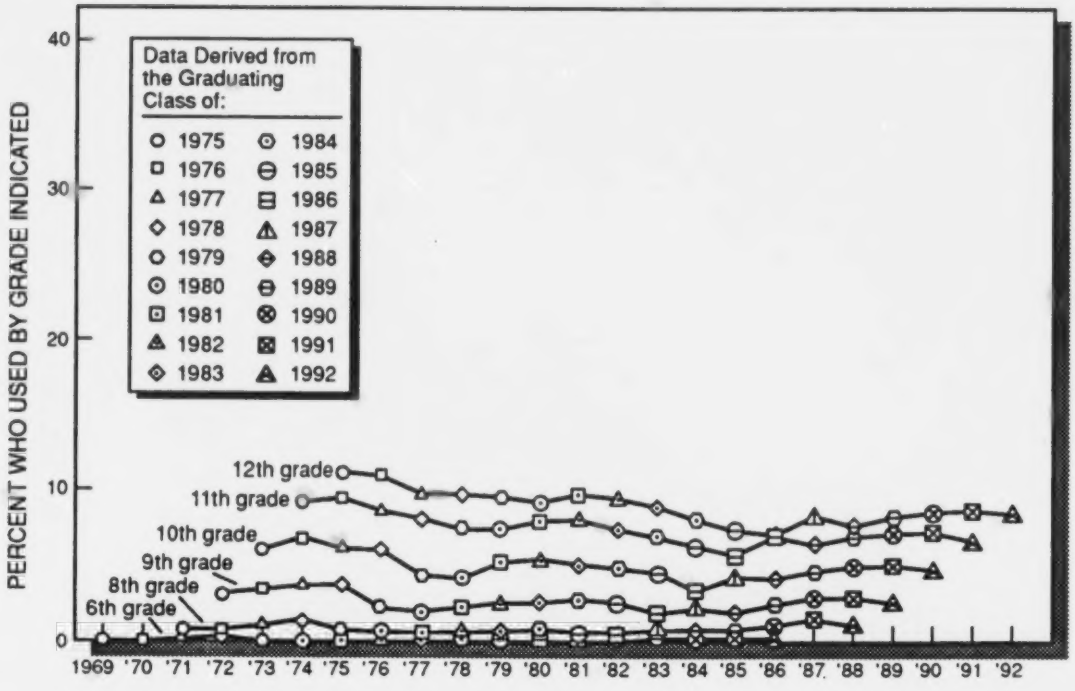


FIGURE 18i

PCP: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

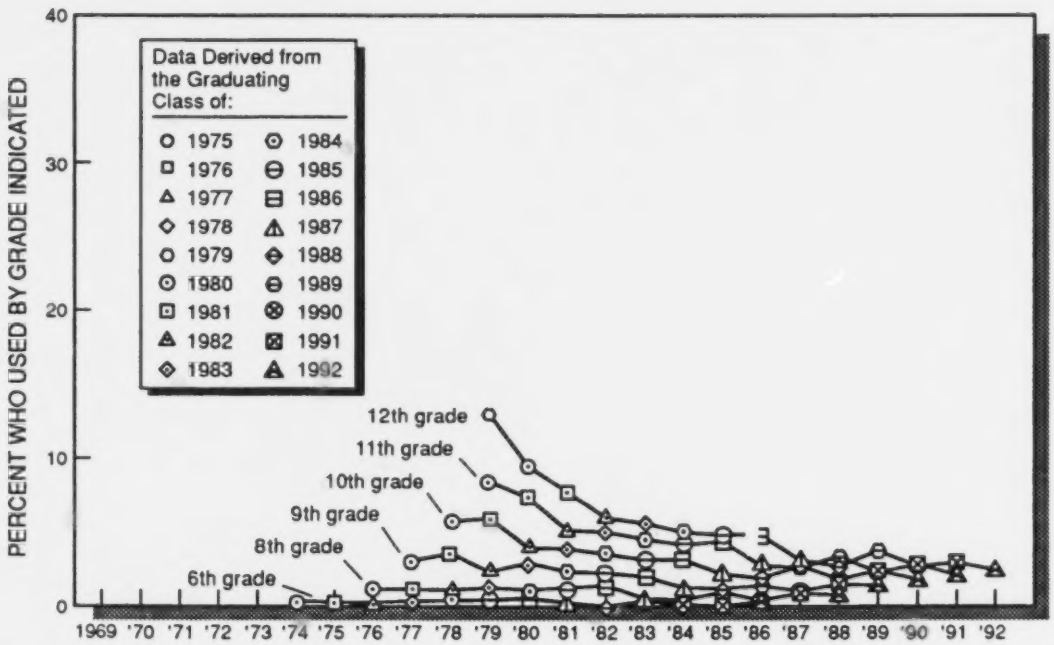


FIGURE 18j

Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

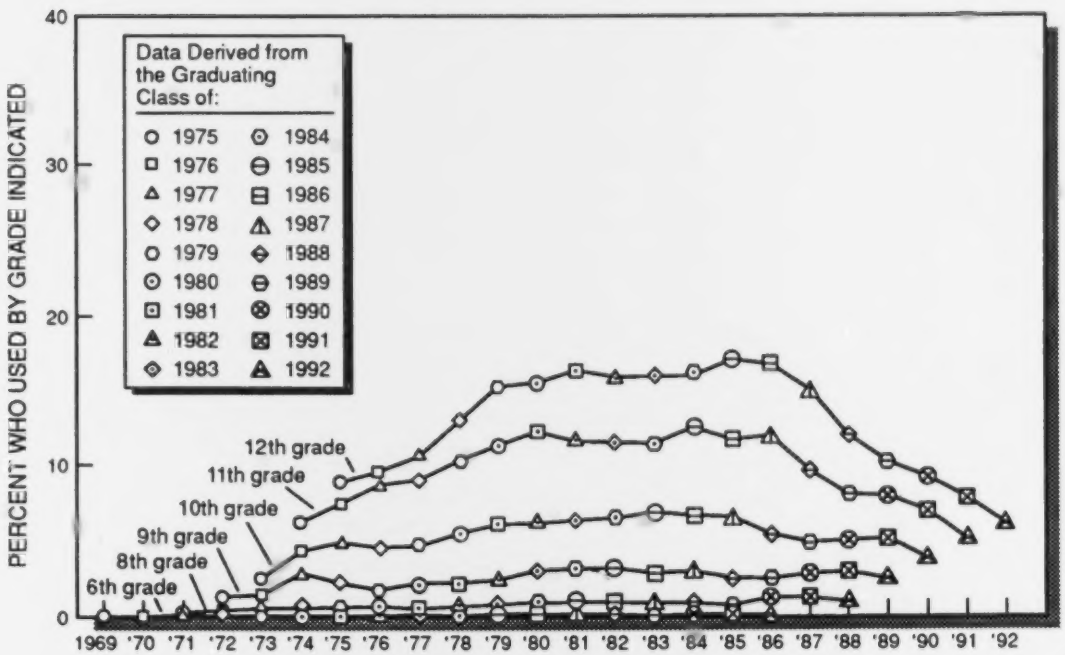


FIGURE 18k

Crack Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

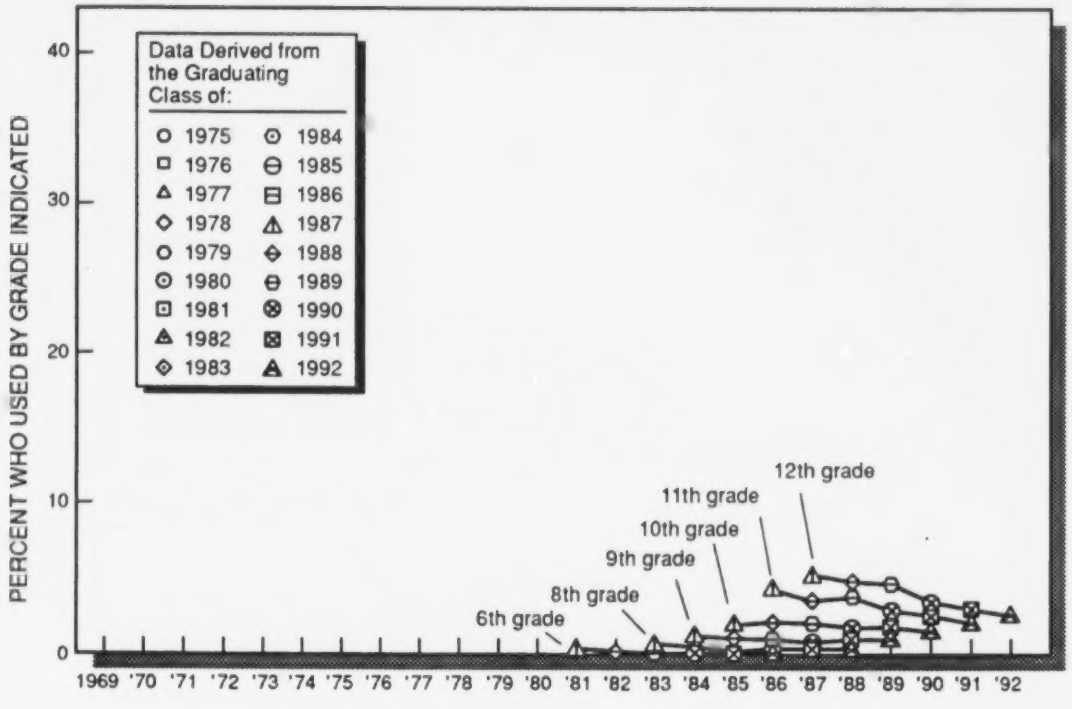


FIGURE 181

Other Forms of Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

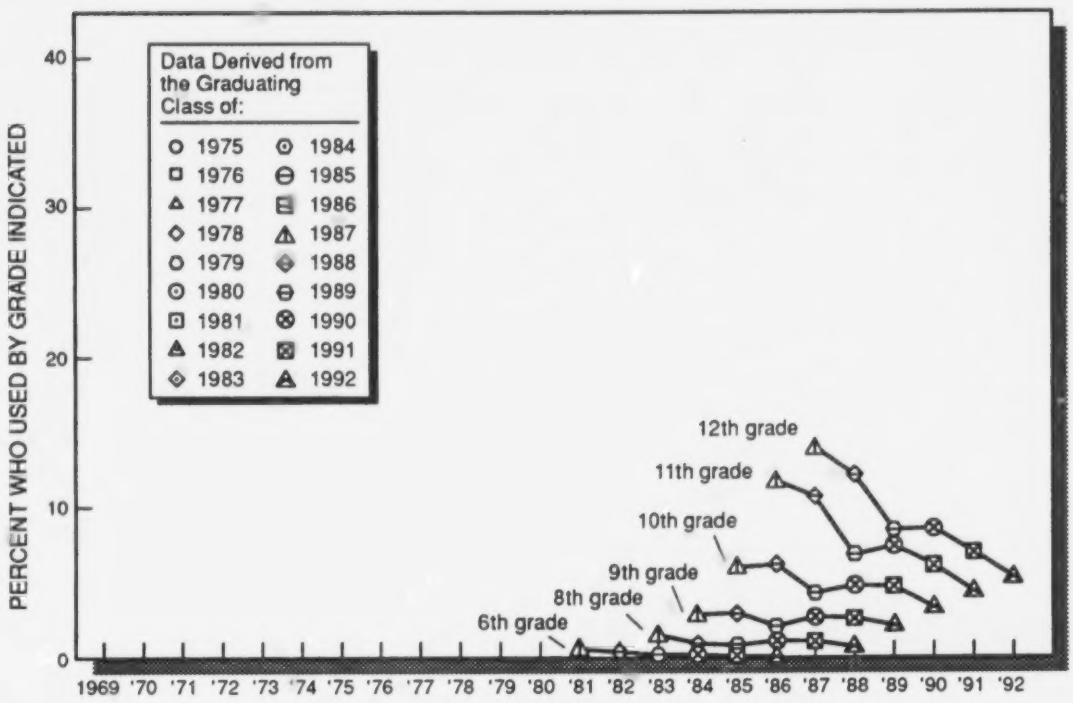


FIGURE 18m

Heroin: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

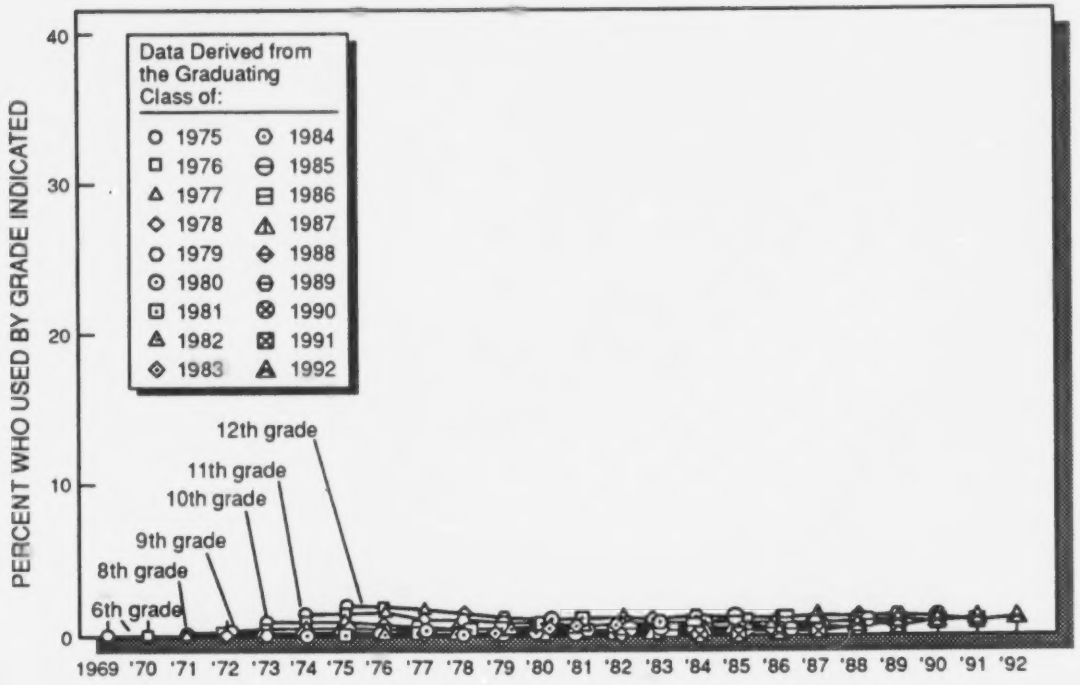


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FIGURE 18n

Other Opiates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

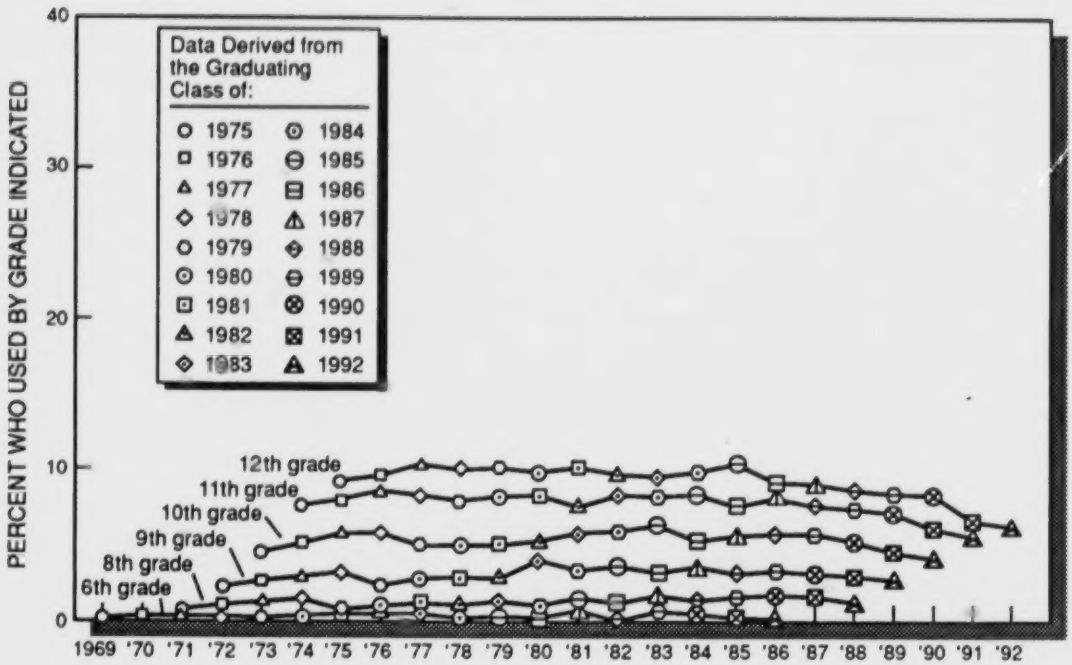
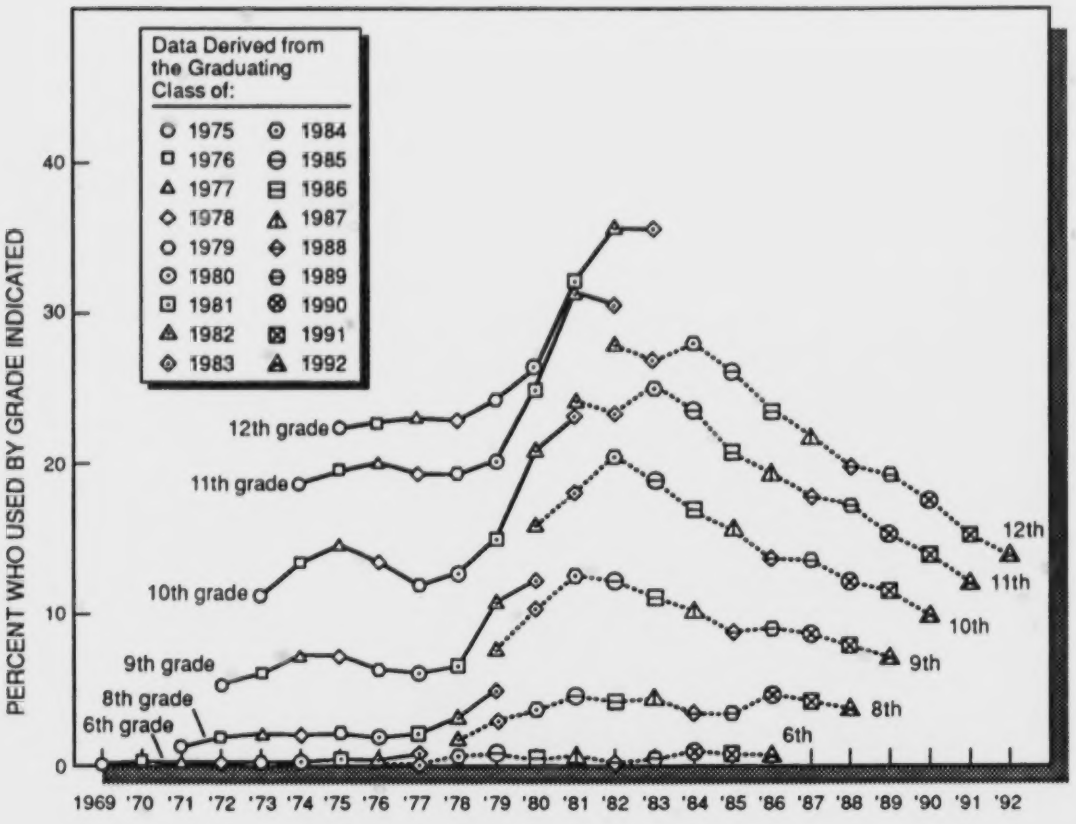


FIGURE 18o

Stimulants: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18p

Barbiturates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

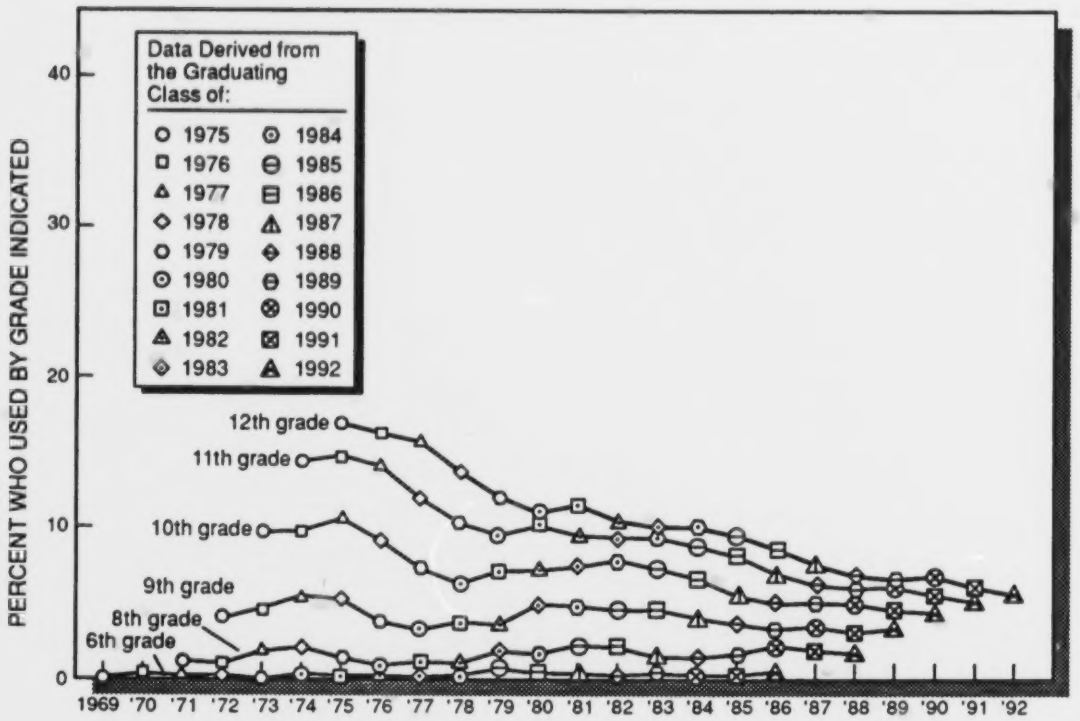


FIGURE 18q

Methaqualone: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

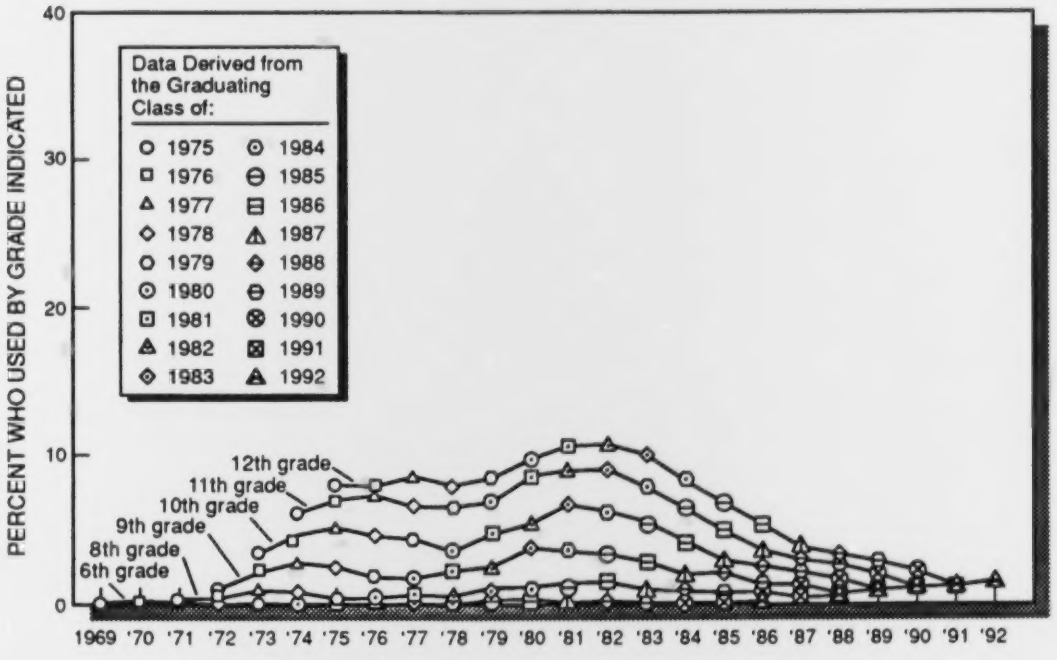


FIGURE 18r

Tranquilizers: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

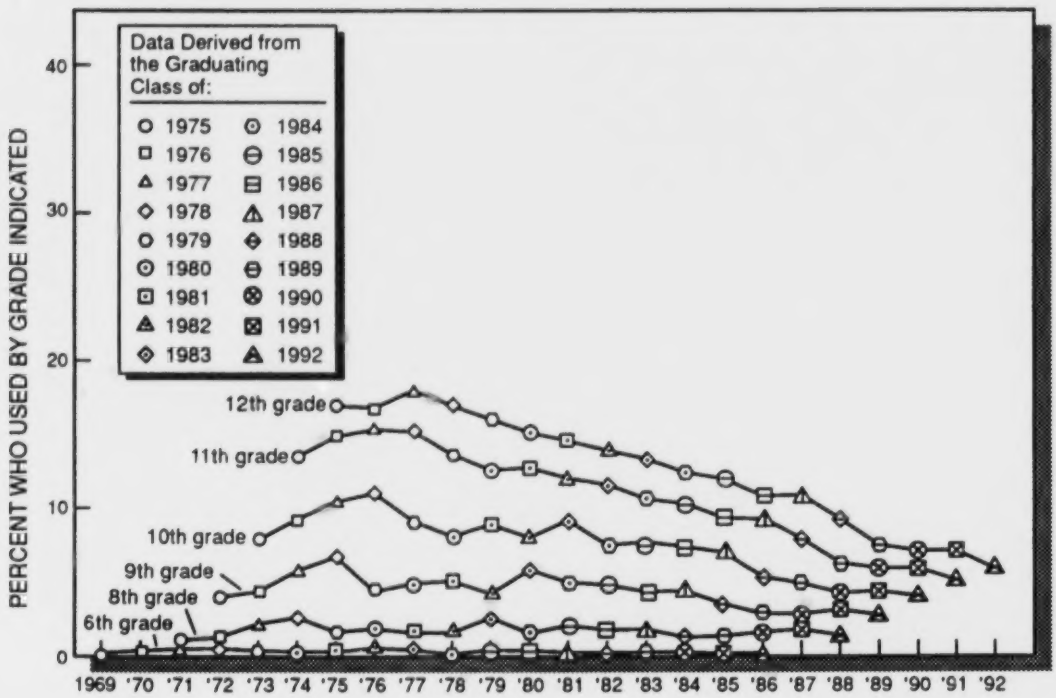


FIGURE 18s

Alcohol: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

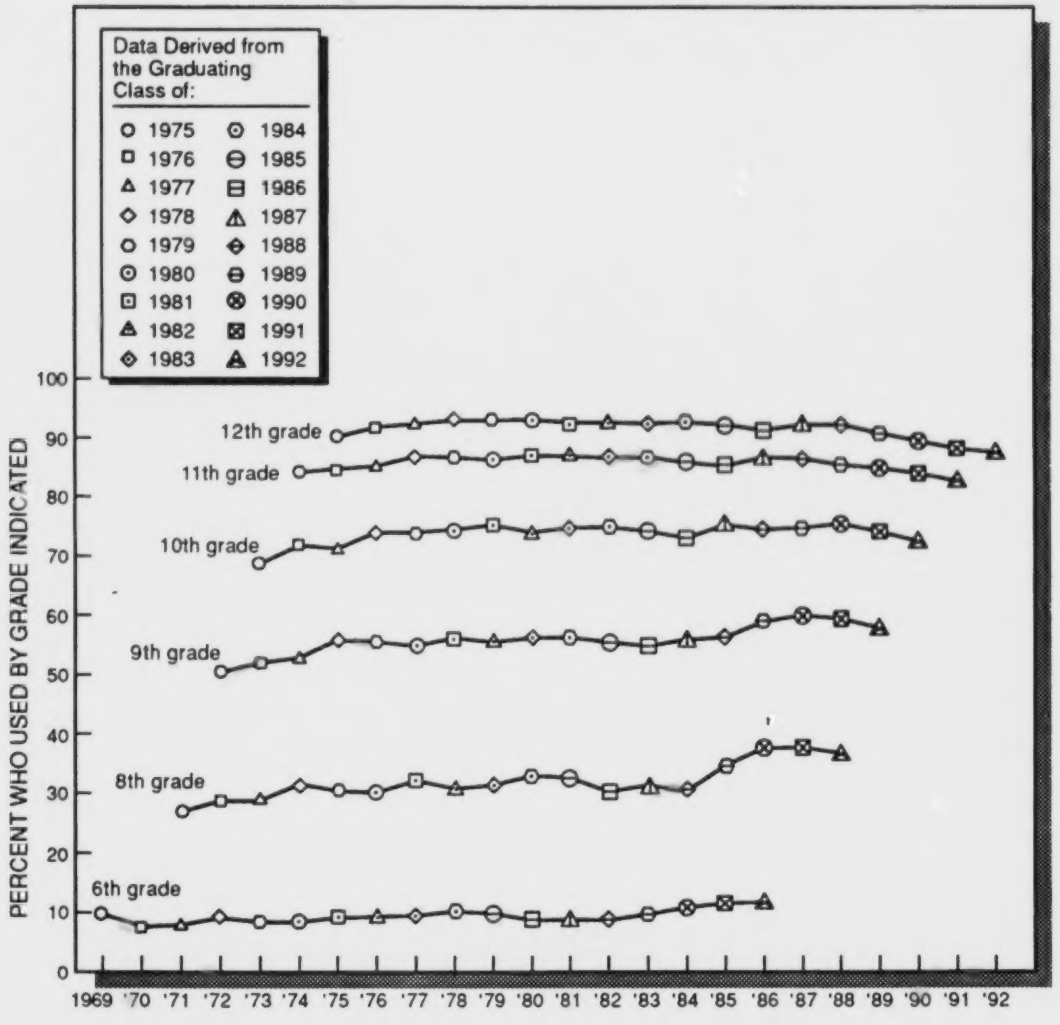


FIGURE 18t

Been Drunk: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

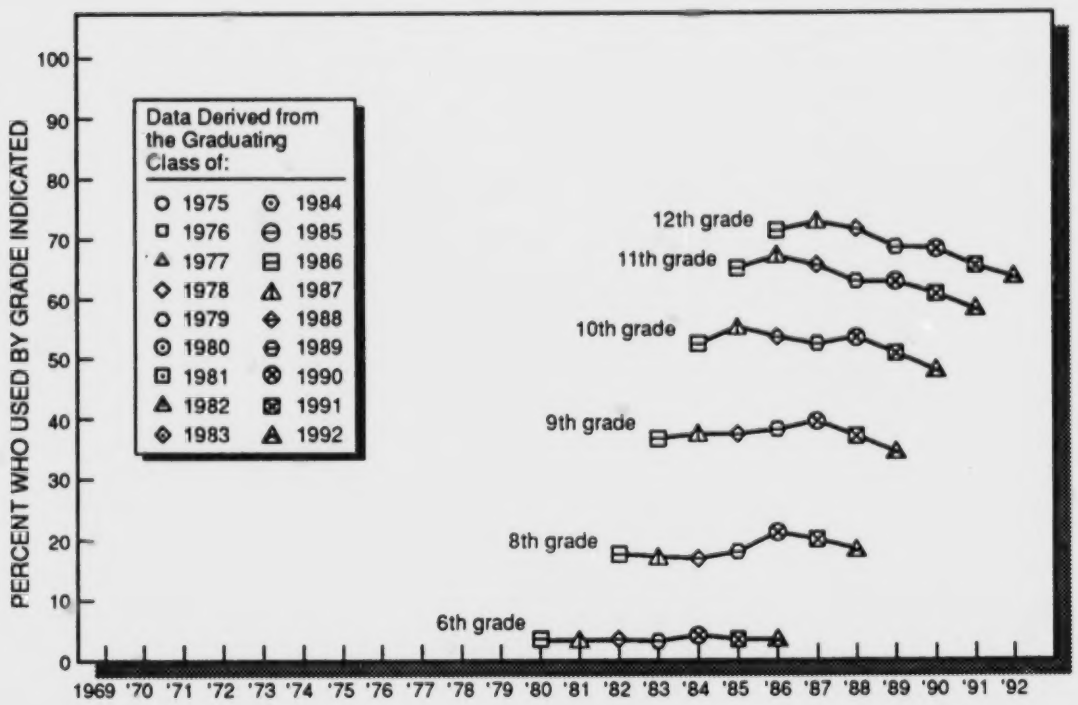


FIGURE 18u

Cigarettes: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

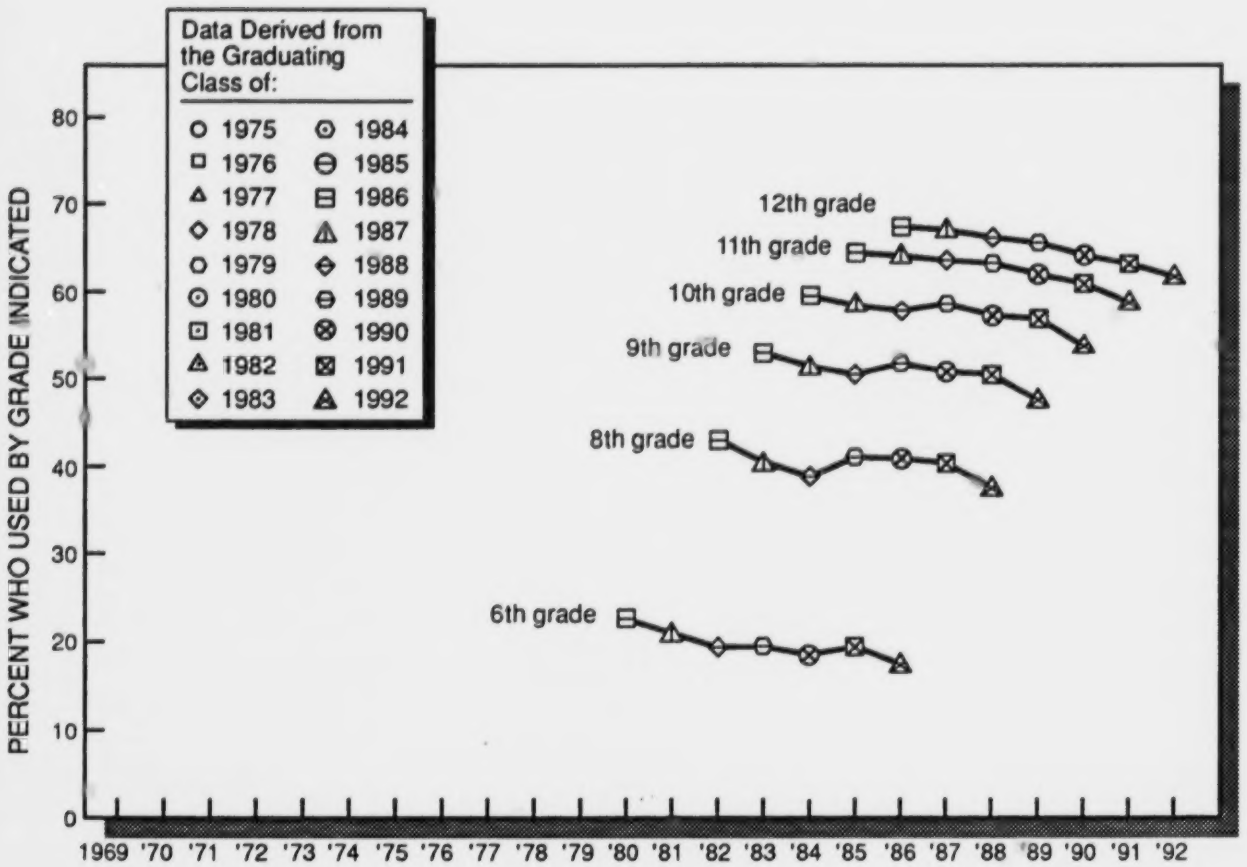


FIGURE 18v

Cigarette Smoking on a Daily Basis: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

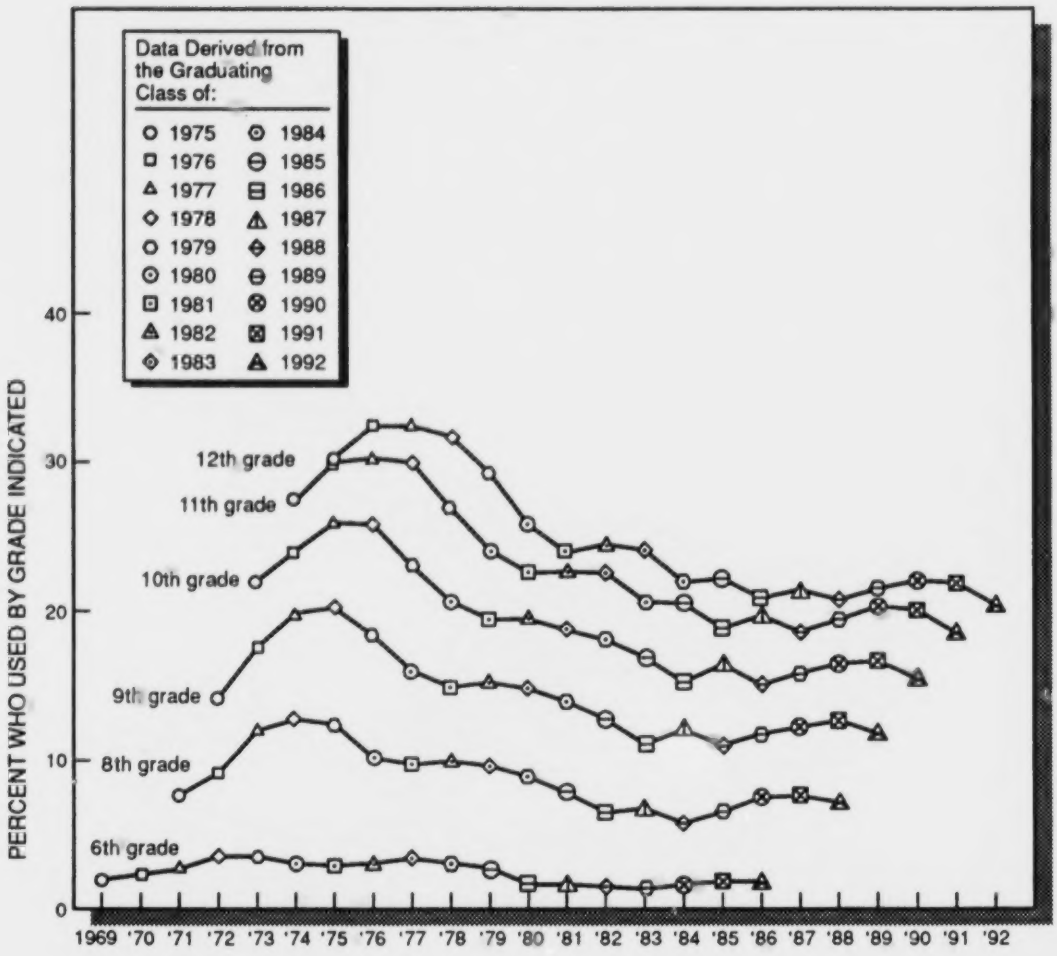


FIGURE 18w

Smokeless Tobacco: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

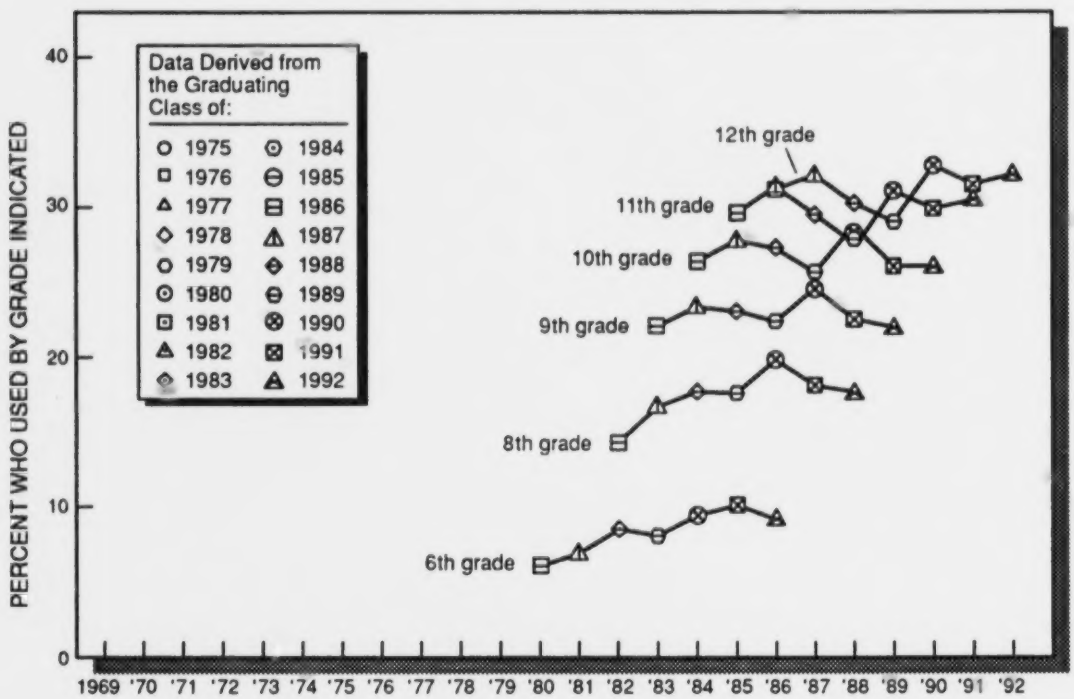
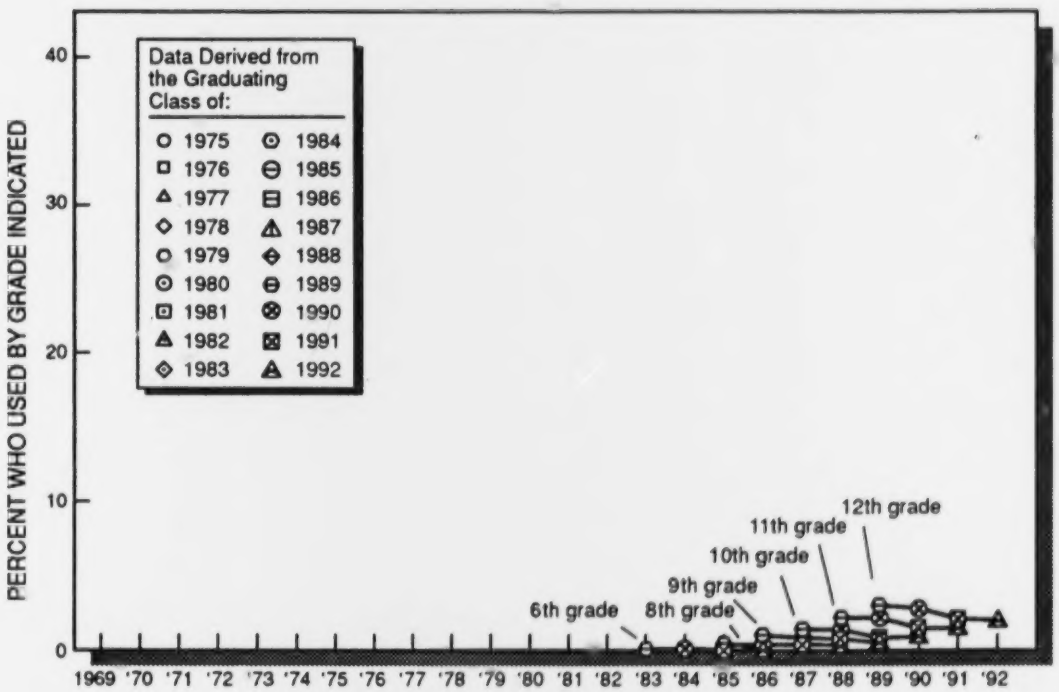


FIGURE 18x

Steroids: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders



Chapter 7

DEGREE AND DURATION OF DRUG HIGHS

While it is possible to ask questions about use in terms of standard quantity measures for substances which are manufactured and sold legally (e.g., alcohol and cigarettes) most of the illicitly used drugs are not purchased in precisely defined (or known) quantities or purities. Therefore, in order to secure indirect measures of the dose or quantity of a drug consumed per occasion, and also to help characterize the typical drug-using event for each type of drug, we have asked twelfth grade respondents on one of the six questionnaire forms to indicate–for each drug that they report having used in the past twelve months–how high they usually get, and how long they usually stay high. The results from those questions are discussed in this chapter, along with trends since 1975, in the degree and duration of the highs usually associated with each of the relevant drugs. Since these questions were not included in the questionnaires administered to eighth and tenth graders, all of the data presented in this chapter are derived from high school seniors.

DEGREE AND DURATION OF HIGHS AMONG TWELFTH GRADERS IN 1992

- Figure 19 shows the proportion of 1992 seniors who say that they *usually* get "not at all" high, "a little" high, "moderately" high, or "very" high when they use a given type of drug. The percentages are based on all respondents who report use of the given drug class in the previous twelve months, and therefore each bar cumulates to 100%. The ordering from left to right is based on the percentage of users of each drug who report that they usually get "very" high.

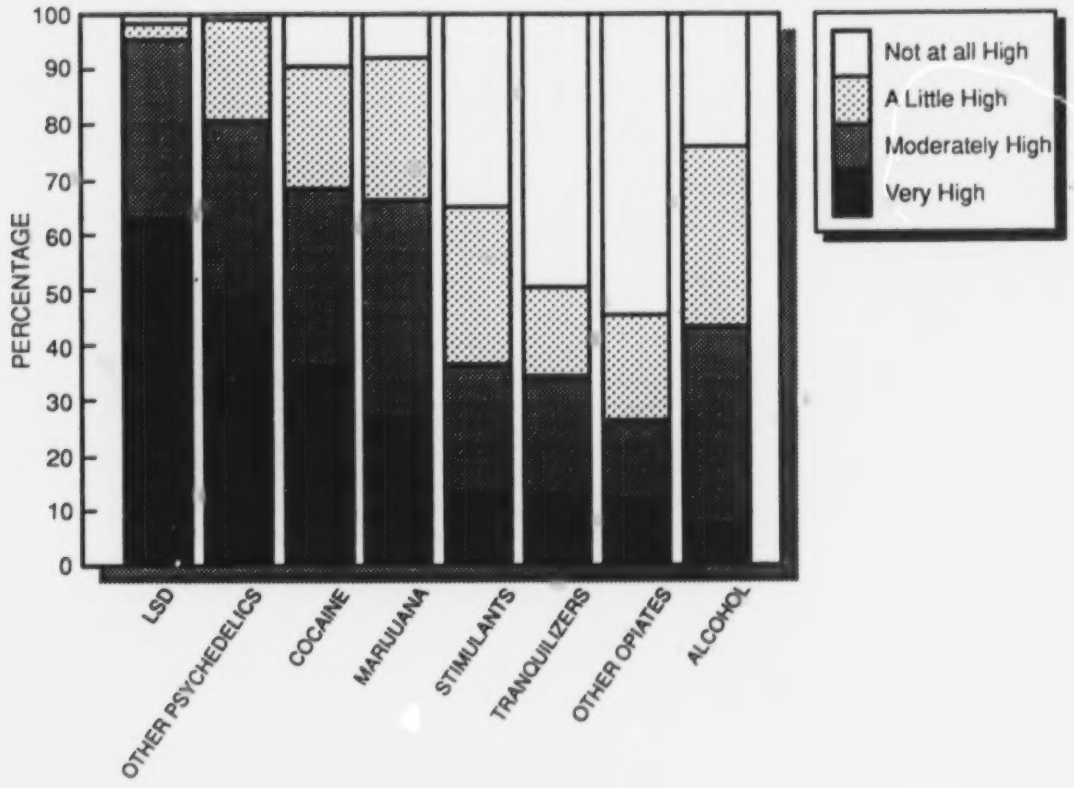
- The drugs which usually result in intense highs are the ***hallucinogens*** (LSD and hallucinogens other than LSD) and ***heroin***. (Actually, this question was omitted for heroin beginning in 1982, due to small numbers of cases available each year; but an averaging across earlier years indicated that it would rank very close to LSD.)

- Following closely are ***cocaine*** and ***marijuana*** with two-thirds of the users of each saying they usually get moderately high or very high when using the drug. Methaqualone and barbiturates are no longer included in these item sets. (Methaqualone used to rank quite high on the question about the intensity of the highs attained.)

- Three of the major psychotherapeutic drug classes–***opiates other than heroin***, ***stimulants***, and ***tranquilizers***–are less often used to get high; but substantial proportions of users (from 26% for other opiates to 36% for stimulants) still say they usually get moderately or very high after taking these drugs.

FIGURE 19

Degree of Drug Highs Attained by Recent Users
Twelfth Graders, 1992



NOTE: Data are based on answers from respondents reporting any use of the drug in the prior twelve months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

- Relatively few of the many seniors using ***alcohol*** say that they usually get *very* high when drinking, although nearly half usually get at least moderately high. However, for a given individual we would expect more variability from occasion to occasion in the degree of intoxication achieved with alcohol than with most of the other drugs. Therefore, many drinkers surely get very high at least sometimes, even if that is not "usually" the case, which is what the question asks.

- Figure 20 presents the data on the duration of the highs usually obtained by users of each class of drugs. The drugs are arranged in the same order as for intensity of highs to permit an examination of the amount of correspondence between the degree and duration of highs.

- As can be seen in Figure 20, those drugs which result in the most intense highs generally tend to result in the longest highs. For example, ***LSD*** and ***hallucinogens other than LSD*** rank one and two respectively on both dimensions, with substantial proportions of the users of these drugs (71% and 40%, respectively) saying they usually stay high for seven hours or more.

- However, there is not a perfect correspondence between degree and duration of highs. Although the highs obtained with ***marijuana*** tend to be relatively short-lived in comparison with many other drugs, over one-third of the users (38%) report usually staying high three to six hours, and another 6% stay high for seven hours or more. The majority of users usually stay high two hours or less, and the modal duration is one to two hours (47% of users).

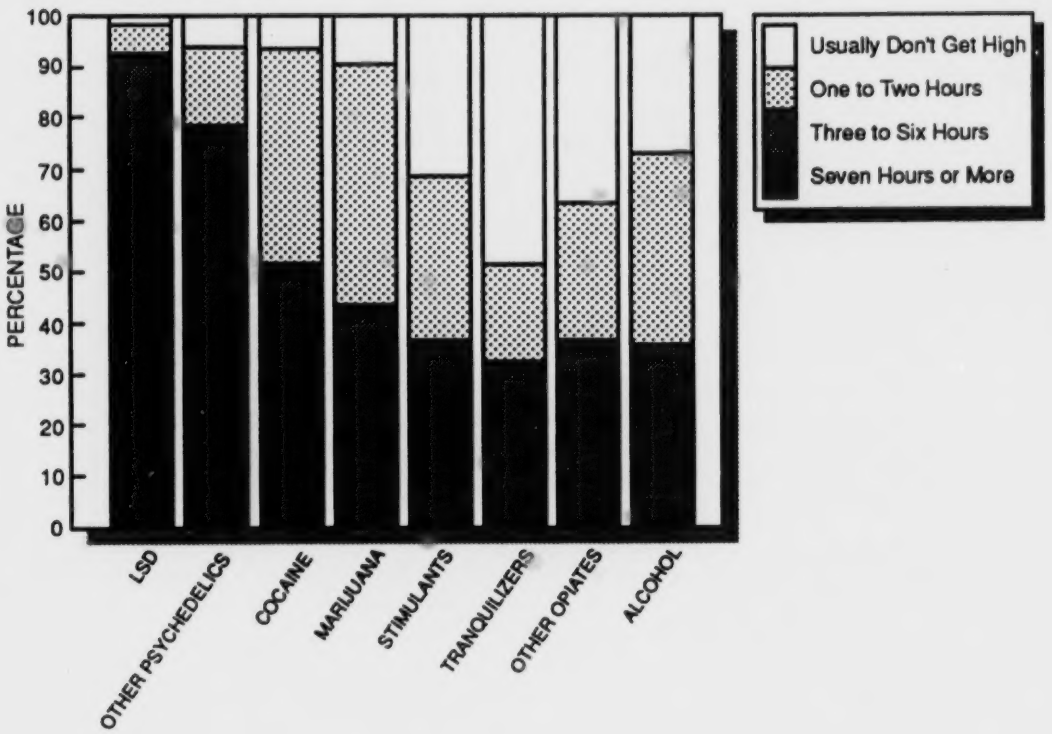
- For ***cocaine*** users, 42% stay high one to two hours, and 25% stay high three to six hours. More than one in four users (27%) stays high seven or more hours. The remaining 7% say they usually don't get high.

- The median duration of highs for users of ***opiates other than heroin***, ***stimulants***, and ***tranquilizers*** is one to two hours. The stimulants are unusual in showing a bimodal distribution. While nearly two-thirds of the users report being high two hours or less, 26% say they usually stay high seven hours or more, suggesting different purposes for their use.

- In sum, the drugs vary considerably in both the duration and degree of the highs usually obtained with them, though most have a median duration of one to two hours. (These data obviously do not address the qualitative differences in the experiences of being "high.") Sizeable proportions of the users of all of these drugs report that they usually get high for at least three hours per occasion, and for a number of drugs–particularly the hallucinogens, but also stimulants and cocaine–appreciable proportions usually stay high for seven hours or more.

FIGURE 20

Duration of Drug Highs Attained by Recent Users
Twelfth Graders, 1992



NOTE: Data are based on answers from respondents reporting any use of the drug in the prior twelve months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

TRENDS IN DEGREE AND DURATION OF DRUG HIGHS

There have been several important shifts over the years in the degree or duration of highs usually experienced by users of the various drugs.

- For ***cocaine***, the *degree* of high obtained appears to have remained fairly constant over the past fifteen years. The story on the *duration* of highs however, has been more complex. In the onset phase of the cocaine epidemic (1976-1979), there was a shortening of the average duration of highs; the proportion of users reporting highs of two hours *or less* rose from 30% to 49%. The proportion of recent users reporting these short highs continued to rise to 64% by the late 1980's though it fell to 48% in 1992. In recent years, the *average duration* of cocaine highs has increased; in 1992, 52% were reporting highs lasting three hours or more, compared to 36% in 1989.

- For ***opiates other than heroin***, there has been a general decline between 1975 and 1992 in both the intensity of the highs usually experienced *and* in the duration of those highs. In 1975, 39% said they usually got "very high" vs. 12% in 1992. The proportion usually staying high for seven or more hours dropped from 28% in 1975 to 11% in 1992. This shift has occurred, in part, due to a substantial increase in the proportion of users who say they do not take these drugs "to get high" (4% in 1975 vs. 28% in 1992). Because the actual prevalence of opiate use has dropped only modestly, this would suggest that increasing use for self-medication may have masked, to some degree, a decrease in recreational use.

- Between 1975 and 1981 there was an increase in ***stimulant*** use among seniors, but coincident with this was a decrease in the average *degree* of high obtained. The proportion of recent users usually getting very high or moderately high fell from 60% in 1975 to 37% in 1981. Consistent with this, the proportion of users saying they simply "don't take them to get high" increased from 9% in 1975 to 20% by 1981. (This statistic has risen further, to 31% in 1992.) Also, the average reported *duration* of stimulant highs was declining; 41% of the 1975 users said they usually stayed high seven or more hours vs. only 17% of the 1981 users.[20] (Though there were many fewer users by 1992, 26% of them said they usually stay high that long.)

  These substantial decreases in both the degree and duration of highs strongly suggest that, over the life of the study, there has been some shift in the purposes for which stimulants were being used. An

[20]In 1982, the questionnaire form containing the questions on degree and duration of highs clarified the amphetamine questions to eliminate the inappropriate inclusion of nonprescription stimulants. One might have expected this change to have increased the degree and duration of highs reported, given that real amphetamines would be expected to have greater psychological impact on the average; but the trends still continued downward that year.

examination of data on self-reported reasons for use tends to confirm this conclusion. In essence, between 1979 and 1984, there was a relative decline in the frequency with which recent users mention "social/ recreational" reasons for use, and between 1976 and 1984 there was an increase in mentions of use for instrumental purposes.[21] More recently, since 1984, the shifts have been slight, and tend *not* to be continuing the pre-1984 trends.

- With respect to the social/recreational shifts from 1979 to 1984, the percent of all recent users citing "to feel good or get high" as a reason for stimulant use declined from 58% to 45%; in 1992 the figure was 45%. Similarly, "to have a good time with my friends" declined from 38% to 30% between 1979 and 1984; in 1992 it was 31%. There were shifts toward more instrumental use between 1976 and 1984: "to lose weight" increased by 15% (to 41%); "to get more energy" increased 13% (to 69%); "to stay awake" increased by 10% (to 62%) and "to get through the day" increased by 10% (to 32%). Since 1988, these instrumental objectives have been less often mentioned by users: In 1992, "to lose weight" is mentioned by 35% of recent users; "to get more energy" by 58%; "to stay awake" by 52%; and "to get through the day" by 24%. However, the proportions indicating recreational motives have changed relatively little since 1984.

- Despite the *relative* decline seen earlier in recreational reasons for use of stimulants, it also appears that there was at least some increase in the *absolute* level of recreational use, though clearly not as steep an increase as the trends through 1981 in overall use might have suggested. The data on the number of seniors exposed to people using amphetamines "to get high or for kicks," which will be discussed further in Chapter 9, showed a definite increase between 1976 and 1981. There was no further increase in exposure to people using for those purposes in 1982, however, suggesting that recreational use, as well as overall use, had leveled off; since 1982 there has been a considerable decrease in such exposure (from 50% to 24% of all seniors), indicating a substantial drop in the total number of people using stimulants for recreational purposes.

- The degree and duration of highs achieved by ***tranquilizer*** users have been decreasing generally since about 1980. While only 29% of the 1975 senior users said they did not usually get high, 50% of the 1992 users said that they did not.

- For ***marijuana*** there had been some general downward trending between 1978 and 1983 in the degree of the highs usually obtained. In

[21]Johnston, L.D. & O'Malley, P.M. (1986). Why do the nation's students use drugs and alcohol? Self-reported reasons from nine national surveys. *Journal of Drug Issues, 16*, 29-66.

1978, 73% of users said they usually got "moderately high" or "very high"–a figure which dropped to 64% by 1983, and stands at 66% in 1992. Some interesting changes also took place in the duration figures between 1978 and 1983. Recall that most marijuana users say they usually stay high either one to two hours *or* three to six hours. Between 1975 and 1983 there was a steady decline in the proportion of users saying they stayed high three or more hours (from 52% in 1975 to 35% in 1983); the proportion stands at 43% in 1992. Until 1979, this shift could have been due almost entirely to the fact that progressively more seniors were using marijuana; and the users in later classes, who might *not* have been users if they were in earlier classes, probably tended to be relatively light users. We deduce this from the fact that the percentage of *all* seniors reporting three to six hour highs remained relatively unchanged from 1975 to 1979, while the percentage of all seniors reporting only one to two hour highs increased steadily–from 16% in 1975 to 25% in 1979.

- After 1979, the overall prevalence rate did *not* continue to increase–it actually declined substantially–but the shift toward shorter average highs continued on through 1983. Thus we must attribute this shift to another factor, and the one which seems most likely is a general shift (even among the most marijuana-prone segment) toward a less frequent (or less intense) use of the drug. The drop in *daily* prevalence since 1979, which certainly is disproportionate to the drop in overall prevalence, is consistent with this interpretation. Also consistent is the fact that the average number of "joints" smoked per day (among those who reported any use in the prior month) has been dropping. In 1976, 49% of the recent (past 30-days) users of marijuana indicated that they averaged less than one joint per day in the prior 30 days, but by 1992 this proportion had risen to 73%. In sum, not only are fewer high school students now using marijuana, but those who are using seem to be using less frequently and to be taking smaller amounts (and doses of the active ingredient) per occasion, at least through 1988. More recently, on the other hand, there has been some slight upward trend in average duration of highs: in 1992, 43% of users reported usually staying high for three or more hours, compared to 34% in 1988.

- This is of particular interest in light of the evidence from other sources that the THC content of marijuana has risen dramatically since the late 1970s. The evidence here would suggest that users have titrated their intake to achieve a certain (perhaps declining) level of high, and thus are smoking less marijuana as measured by volume.

- There are no clearly discernible long term patterns in the intensity or duration of the highs being experienced by users of ***LSD*** or ***hallucinogens other than LSD***. Although the proportion of LSD users who say they usually get "very high" has fallen slightly since 1989

(from 71% to 63% in 1992). Data are not collected for highs experienced in the use of ***inhalants***, the specific ***nitrites***, ***PCP***, or ***heroin***.

- The intensity and duration of highs associated with ***alcohol*** use have been generally stable throughout the study period, although there are indications of some increase in the percentage of alcohol users who do not usually get high; in 1992, 24% of users say they usually get "not at all high," compared to 20% in 1988.

Chapter 8

ATTITUDES AND BELIEFS ABOUT DRUGS

When this study was launched in 1975, we allocated a considerable amount of questionnaire content to the measurement of certain attitudes and beliefs related to drug use–ones which we believed might prove important in explaining young people's use of drugs. In the intervening years, this has proven to be a particularly fruitful investment.

In this section we present the cross-time results for three of these sets of attitude and belief questions. One set concerns students' beliefs about how harmful the various kinds of drug use are for the user; the second concerns the degree to which students personally disapprove of various kinds of drug use; and the third, asked only of seniors, deals with their attitudes about various forms of legal prohibition. Chapter 9 will present results on the closely related topics of parents' and friends' attitudes about drugs, as students perceive them.

As the data below show, overall percentages of students disapproving various drugs, and the percentages believing their use to involve serious risk, both tend to parallel the percentages of actual users. For example, of the illicit drugs, marijuana is the most frequently used and one of the least likely to be seen as risky to use. This and many other such parallels suggest that the individuals who disapprove use of a drug or to view its use as involving risk are less likely to use it. A series of individual-level analyses of these data confirms this conclusion: strong correlations exist between individual use of drugs and the various attitudes and beliefs about those drugs. Those seniors who use a given drug also are less likely to disapprove its use or to see it as dangerous; also, they are more likely to report their own parents and friends as being at least somewhat more accepting of its use.

The attitudes and beliefs about drug use reported below have been changing during recent years, along with actual behavior. Beginning in 1979, scientists, policy makers, and in particular the electronic and printed media, gave considerable attention to the increasing levels of regular marijuana use among young people, and to the potential hazards associated with such use. As will be seen below, attitudes and beliefs about regular use of marijuana have shifted dramatically since 1979 in a more conservative direction–a shift which coincides with a reversal in the previous rapid rise of daily use, and which very likely reflects the impact of this increased public attention. Between 1986 and 1987, a similar and even more dramatic shift began to occur for cocaine and has continued since.

PERCEIVED HARMFULNESS OF DRUGS

Beliefs about Harmfulness Among Twelfth Graders

- A substantial majority of high school seniors perceive regular use of ***any of the illicit drugs*** as entailing "great risk" of harm for the user.

355-233 - 93 - 7 (Vol. 1) QL 3

TABLE 19

Trends in Harmfulness of Drugs as Perceived by Eighth, Tenth, and Twelfth Graders, 1991–1992

Q. *How much do you think people risk harming themselves (physically or in other ways), if they...*	Percentage saying "great risk"[a]								
	8th Grade			10th Grade			12th Grade		
	1991	1992	'91–92 change	1991	1992	'91–92 change	1991	1992	'91–92 change
Try marijuana once or twice	40.4	39.1	–1.3	30.0	31.9	+1.9s	27.1	24.5	–2.6
Smoke marijuana occasionally	57.9	56.3	–1.6	48.6	48.9	+0.3	40.6	39.6	–1.0
Smoke marijuana regularly	83.8	82.0	–1.8	82.1	81.1	–1.0	78.6	76.5	–2.1
Try inhalants once or twice	35.9	37.0	+1.1	37.8	38.7	+0.9	—	—	—
Take inhalants regularly	65.6	64.4	–1.2	69.8	67.9	–1.9s	—	—	—
Try crack once or twice	62.8	61.2	–1.6	70.4	69.6	–0.8	60.6	62.4	+1.8
Take crack occasionally	82.2	79.6	–2.6ss	87.4	86.4	–1.0	76.5	76.3	–0.2
Try cocaine powder once or twice	55.5	54.1	–1.4	59.1	59.2	+0.1	53.6	57.1	+3.5
Take cocaine powder occasionally	77.0	74.3	–2.7ss	82.2	80.1	–2.1ss	69.8	70.8	+1.0
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	11.0	12.1	+1.1	9.0	10.1	+1.1s	9.1	8.6	–0.5
Take one or two drinks nearly every day	31.8	32.4	+0.6	36.1	36.8	+0.7	32.7	30.6	–2.1
Have five or more drinks once or twice each weekend	59.1	58.0	–1.1	54.7	55.9	+1.2	48.6	49.0	+0.4
Smoke one or more packs of cigarettes per day	51.6	50.8	–0.8	60.3	59.3	–1.0	69.4	69.2	–0.2
Use smokeless tobacco regularly	35.1	35.1	0.0	40.3	39.6	–0.7	37.4	35.5	–1.9
Take steroids	64.2	69.5	+5.3sss	67.1	72.7	+5.6sss	65.6	70.7	+5.1ss
Approx. N =	17437	18662		14719	14808		2549	2684	

NOTE: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001.
'—' indicates data not available.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, (5) Can't say, drug unfamiliar.

TABLE 20

Trends in Harmfulness of Drugs as Perceived by Twelfth Graders

Percentage saying "great risk"[a]

Q *How much do you think people risk harming themselves (physically or in other ways), if they...*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91-'92 change
Try marijuana once or twice	15.1	11.4	9.5	8.1	9.4	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	19.0	23.6	23.1	27.1	24.5	-2.6
Smoke marijuana occasionally	18.1	15.0	13.4	12.4	13.5	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9	40.6	39.6	-1.0
Smoke marijuana regularly	43.3	38.6	36.4	34.9	42.0	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	77.0	77.5	77.8	78.6	76.5	-2.1
Try LSD once or twice	49.4	45.7	43.2	42.7	41.6	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	45.7	46.0	44.7	46.6	42.3	-4.3s
Take LSD regularly	81.4	80.8	79.1	81.1	82.4	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	84.2	84.3	84.5	84.3	81.8	-2.5
Try PCP once or twice	—	—	—	—	—	—	—	—	—	—	—	—	55.6	58.8	56.6	55.2	51.7	54.8	+3.1
Try cocaine once or twice	42.6	39.1	35.6	33.2	31.5	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4	59.4	56.8	-2.6
Take cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	54.2	66.8	69.2	71.8	73.9	75.5	75.1	-0.4
Take cocaine regularly	73.1	72.3	68.2	68.2	69.5	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	89.2	90.2	91.1	90.4	90.2	-0.2
Try crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	57.0	62.1	62.9	64.3	60.6	62.4	+1.8
Take crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	70.4	73.2	75.3	80.4	76.5	76.3	-0.2
Take crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	84.6	84.8	85.6	91.6	90.1	89.3	-0.8
Try cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	45.3	51.7	53.8	53.9	53.6	57.1	+3.5
Take cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	56.8	61.9	65.8	71.1	69.8	70.8	+1.0
Take cocaine powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	81.4	82.9	83.9	90.2	88.9	88.4	-0.5
Try heroin once or twice	60.1	58.9	55.8	52.9	50.4	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	54.0	53.8	55.4	55.2	50.9	-4.3s
Take heroin occasionally	75.6	75.6	71.9	71.4	70.9	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	73.8	75.5	76.6	74.9	74.2	-0.7
Take heroin regularly	87.2	88.6	86.1	86.6	87.5	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	88.8	89.6	90.2	89.6	89.2	-0.4
Try amphetamines once or twice	35.4	33.4	30.8	29.9	29.7	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2	36.3	32.6	3.7s
Take amphetamines regularly	69.0	67.3	66.6	67.1	69.9	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2	74.1	72.4	-1.7
Try crystal meth. (ice) once or twice	—	—	—	—			—	—	—	—	—	—	—	—	—	—	61.6	61.9	+0.3
Try barbiturates once or twice	34.8	32.5	31.2	31.3	30.7	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4	35.1	32.2	-2.9
Take barbiturates regularly	69.1	67.7	68.6	68.4	71.6	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2	70.5	70.2	-0.3
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	5.3	4.8	4.1	3.4	4.1	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	6.0	6.0	8.3	9.1	8.6	-0.5
Take one or two drinks nearly every day	21.5	21.2	18.5	19.6	22.6	20.3	21.6	21.6	21.6	23.0	24.4	25.1	26.2	27.3	28.5	31.3	32.7	30.6	2.1
Take four or five drinks nearly every day	63.5	61.0	62.9	63.1	66.2	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	68.5	69.8	70.9	69.5	70.5	+1.0
Have five or more drinks once or twice each weekend	37.8	37.0	34.7	34.5	34.9	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	42.6	44.0	47.1	48.6	49.0	+0.4
Smoke one or more packs of cigarettes per day	51.3	56.4	58.4	59.0	63.0	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2	69.4	69.2	-0.2
Use smokeless tobacco regularly	—	—	—	—	—	—	—	—	—	—	—	25.8	30.0	33.2	32.9	34.2	37.4	35.5	-1.9
Take steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63.8	69.9	65.6	70.7	+5.1ss
Approx. N =	2804	2918	3052	3770	3250	3234	3604	3557	3305	3262	3250	3020	3315	3276	2796	2553	2549	2684	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

As Table 20 shows, almost 90% of the seniors feel this way about regular use of ***crack, cocaine powder***, and ***heroin***. The proportions attributing great risk to regular use of ***LSD, amphetamines***, and ***barbiturates*** are 82%, 72%, and 70%, respectively.

- Regular use of ***cigarettes*** (i.e., one or more packs a day) is judged by about two-thirds of all seniors (69%) as entailing a great risk of harm for the user.

- Regular use of ***marijuana*** is judged to involve great risk by 77% of the seniors. This number is a higher proportion than those who judge cigarette smoking to involve great risk, perhaps in part because marijuana can have dramatic short-term impacts on mood, behavior, memory, etc., in addition to any long-term physiological impacts–points which have been stressed in recent years in the advertising campaign of the National Partnership for a Drug-Free America.

- Regular use of ***alcohol*** is more explicitly defined in several questions providing more data on the amount of use. Almost one-third (31%) of seniors associate great risk of harm with having one or two drinks almost daily. Nearly half (49%) think there is great risk involved in having five or more drinks once or twice each weekend. Over two-thirds (71%) think the user takes a great risk in consuming four or five drinks nearly every day. It is notable that more than a quarter of the students do not view even this pattern of regular heavy drinking as entailing great risk.

- Very few seniors (9%) believe there is much risk involved in trying an ***alcoholic beverage*** once or twice.

- Compared with perceptions about the risks of regular use of each drug, many fewer respondents feel that a person runs a "great risk" of harm by simply trying the drug once or twice.

- Still, experimental use of most illicit drugs is viewed as risky by substantial proportions of high school seniors. The percentages associating great risk with experimental use rank order as follows: 62% for ***crack***, 57% for ***cocaine powder***, 55% for ***PCP***, 51% for ***heroin***, 42% for ***LSD***, 33% for ***amphetamines***, 32% for ***barbiturates***, and 25% for ***marijuana***.

- Although the use of ***crack*** is seen as slightly more dangerous than the use of ***cocaine powder*** at experimental and occasional levels of use, it engenders about the same level of perceived risk at the regular use level.

Beliefs about Harmfulness Among Eighth and Tenth Graders

An abbreviated set of the same questions on harmfulness was asked of eighth and tenth graders beginning in 1991, and additional questions were added about the perceived harmfulness of inhalants and smokeless tobacco. (See Table 19.) Although the findings are quite similar to those for seniors in general, there are some interesting differences, as well.

- The most important difference is observed for ***regular cigarette smoking***: An unfortunate fact is that perceived risk is lowest at the ages where initiation is most likely to occur. While nearly 70% of seniors see great risk in pack-a-day smoking, only about 60% of the tenth graders and only about 50% of the eighth graders do.

- However, the younger students are somewhat more likely to see ***marijuana*** use as dangerous than seniors. The same is true for the regular use of ***crack*** and ***cocaine powder***.

- Eighth and tenth grade students are more likely to see weekend ***binge drinking*** as dangerous, though their views on daily drinking and experimentation are not much different from seniors.

- Regular use of ***smokeless tobacco*** is viewed as entailing great risk by only about one-third (35%) of eighth grade students, and by only 40% of tenth graders. Because this behavior is often initiated at early ages these figures are disturbingly low.

- These various differences among grade levels could reflect maturational (age) effects, cohort effects–perhaps due to younger cohorts getting more drug education–or some combination of these effects. It will be a few years before we can begin to distinguish among these interpretations empirically.

TRENDS IN PERCEIVED HARMFULNESS OF DRUGS

Trends in Perceived Harmfulness Among Twelfth Graders

Several very important trends have been taking place in recent years in these beliefs about the dangers associated with using various drugs (see Table 20 and Figures 21a through 29b).

- One of the most important trends has involved ***marijuana*** (Figure 21a). From 1975 through 1978 there had been a decline in the harmfulness perceived to be associated with all levels of marijuana use; but in 1979, for the first time, there was an increase in these proportions–an increase which preceded any appreciable downturn in use and which continued fairly steadily through 1991.

FIGURE 21a

Trends in Perceived Harmfulness of Marijuana Use for Twelfth Graders

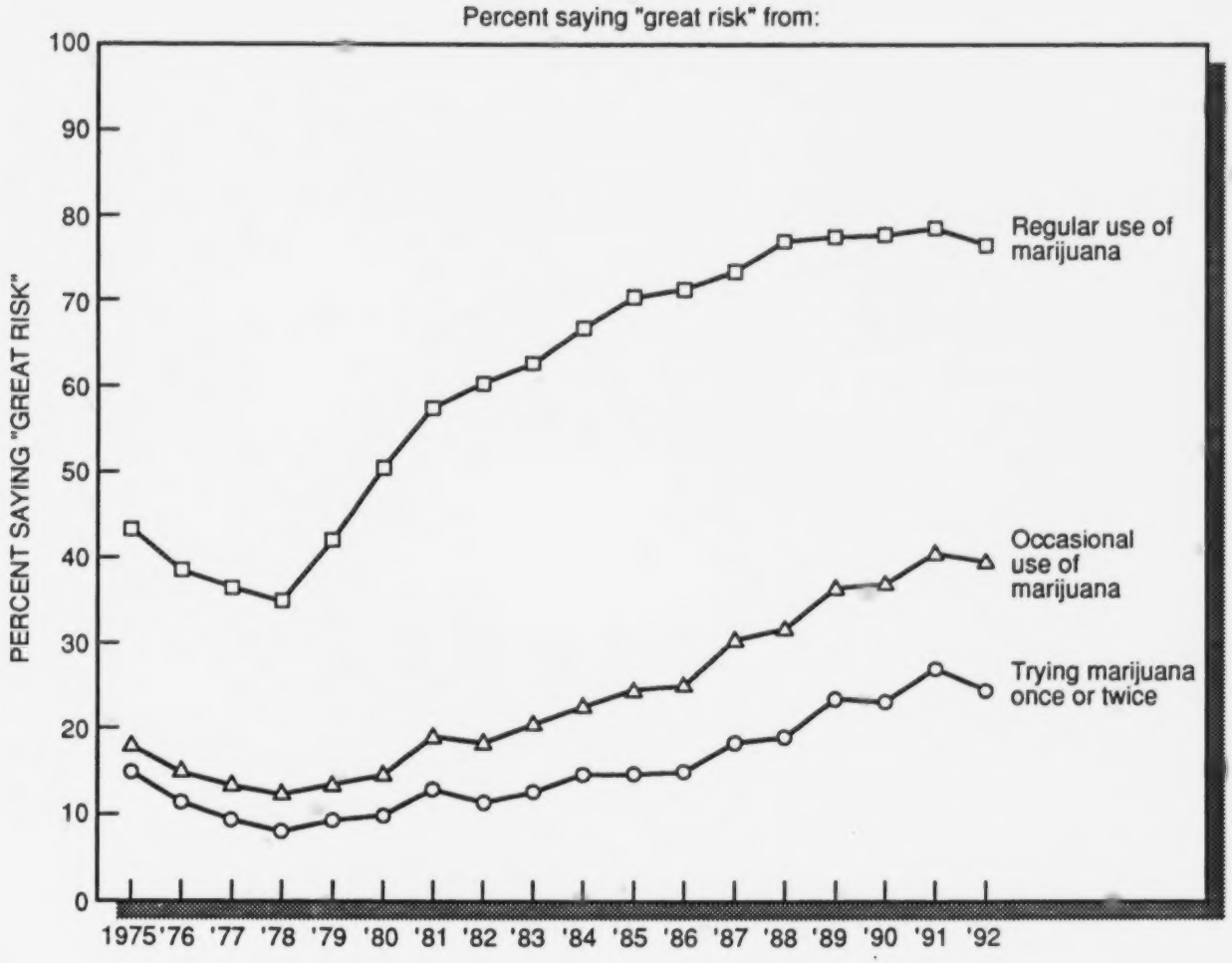


FIGURE 21b

Trends in Disapproval of Marijuana Use for Twelfth Graders

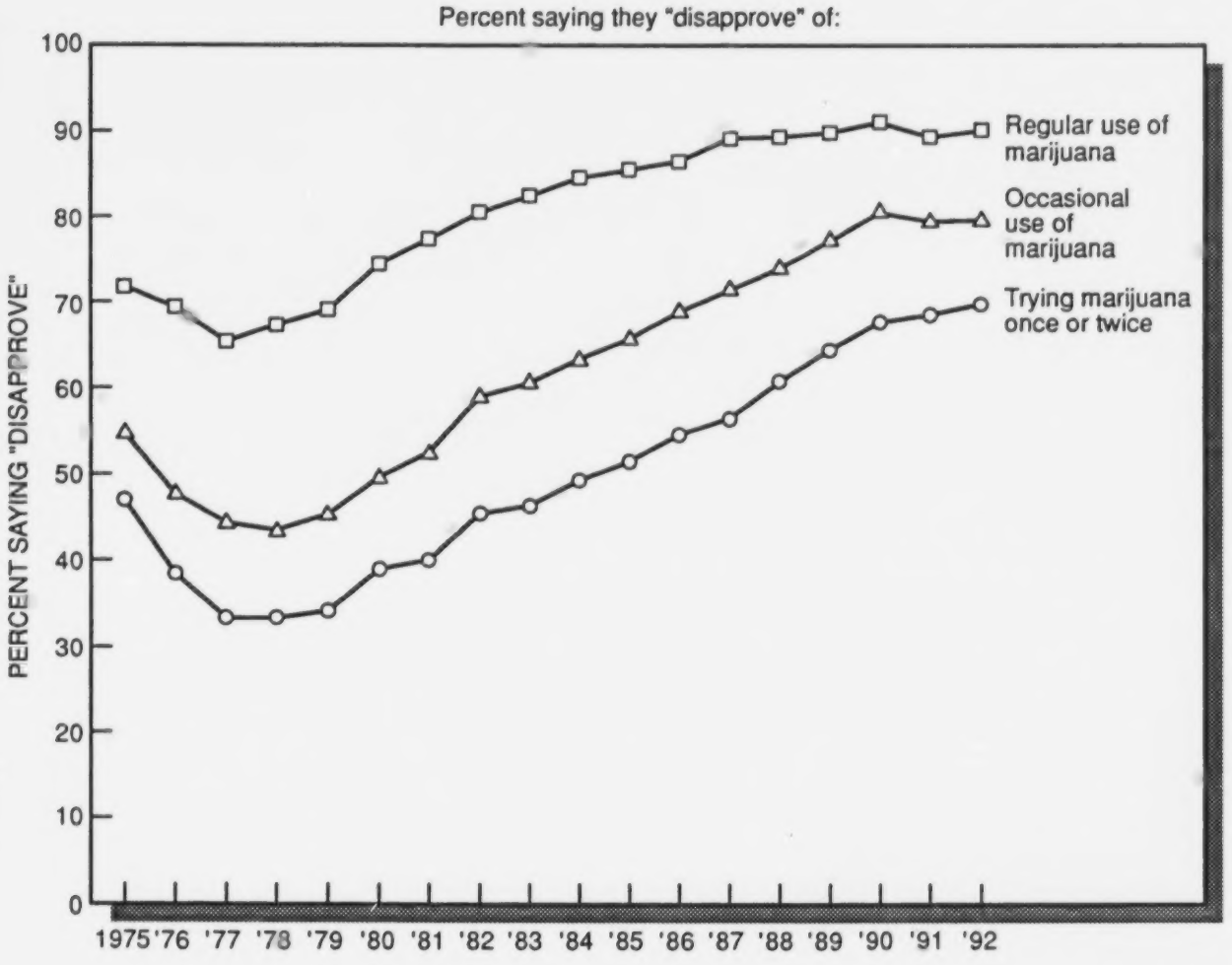


FIGURE 22a

Trends in Perceived Harmfulness of Cocaine Use for Twelfth Graders

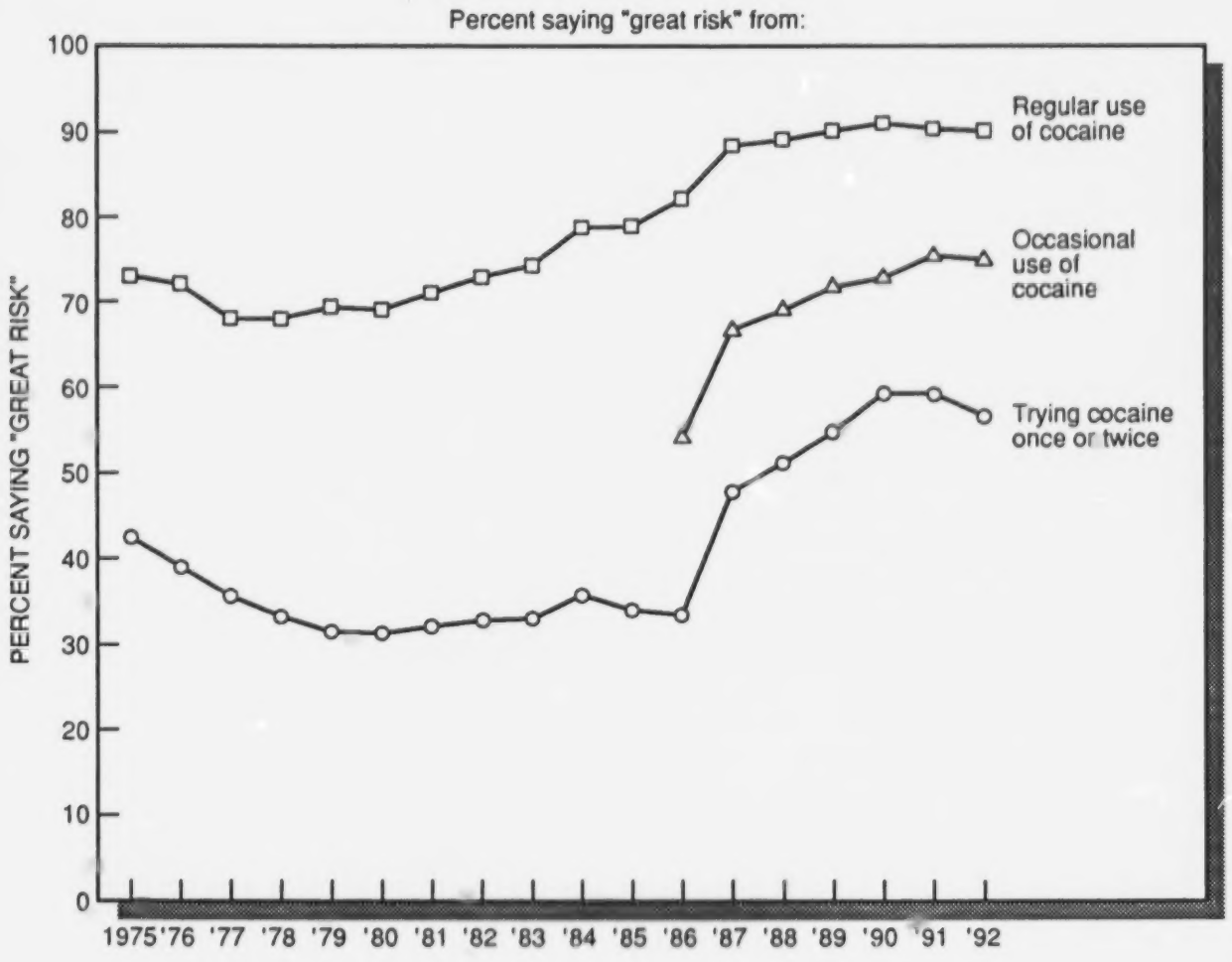


FIGURE 22b

Trends in Disapproval of Cocaine Use for Twelfth Graders

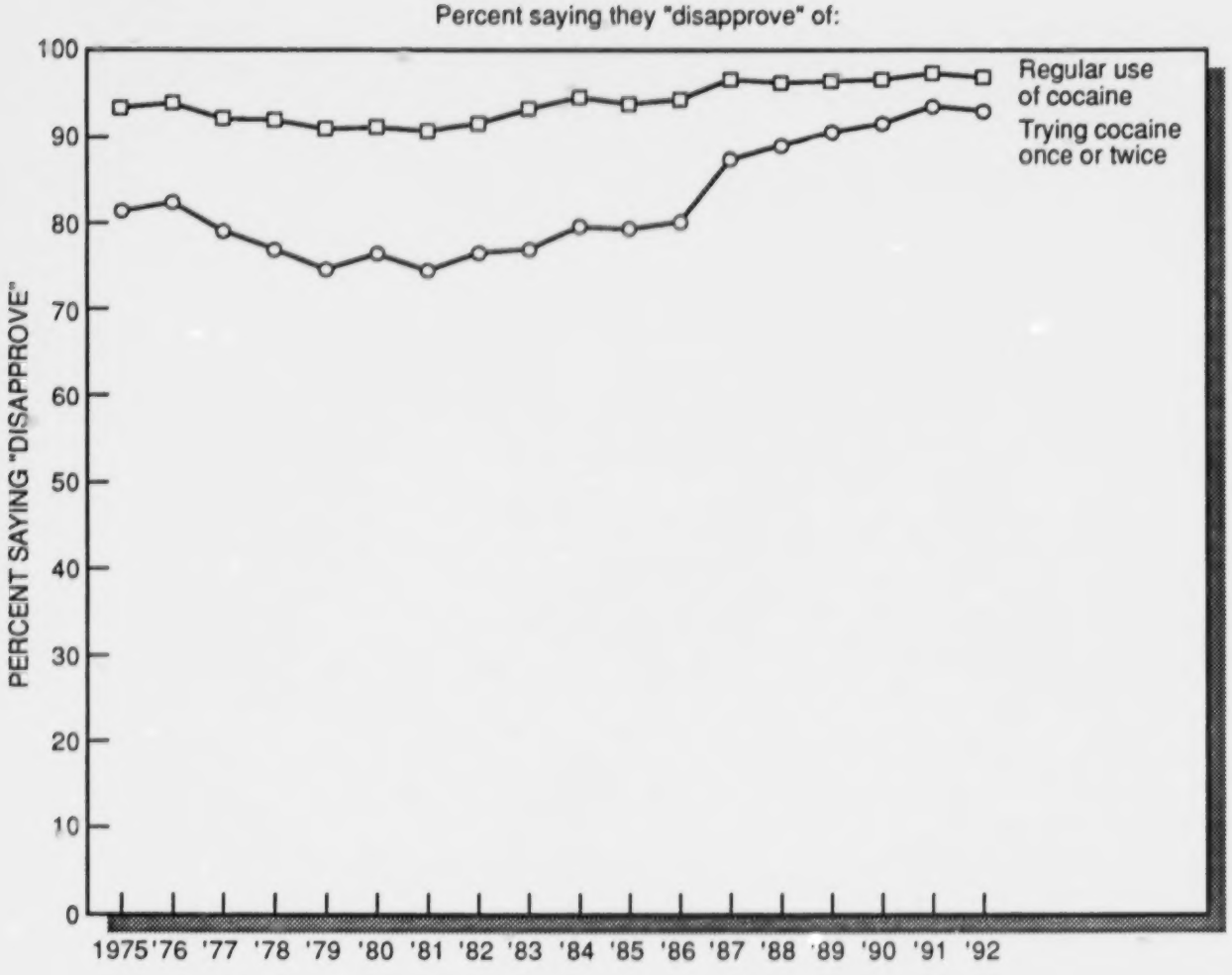


FIGURE 23

Marijuana: Trends in Perceived Availability, Perceived Risk of Regular Use, and Prevalence of Use in Past Thirty Days for Twelfth Graders

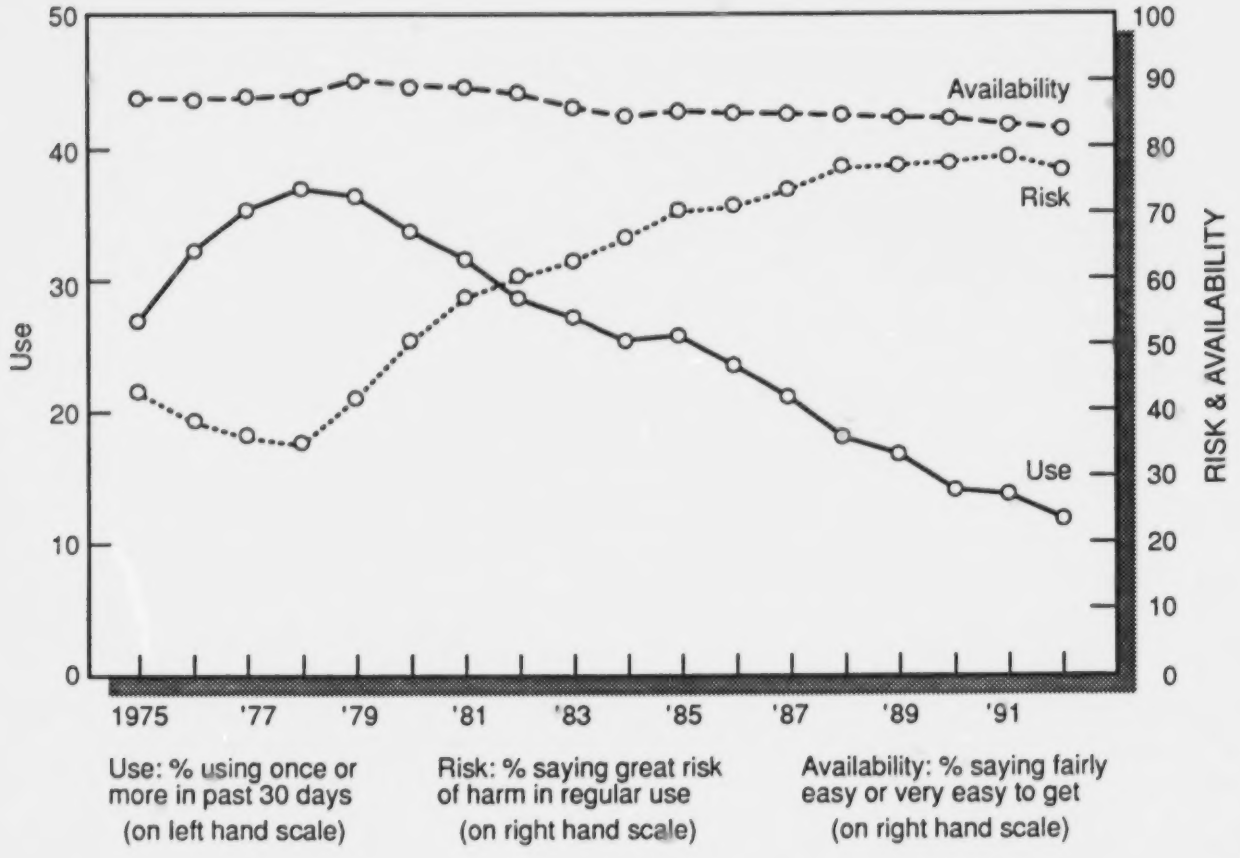
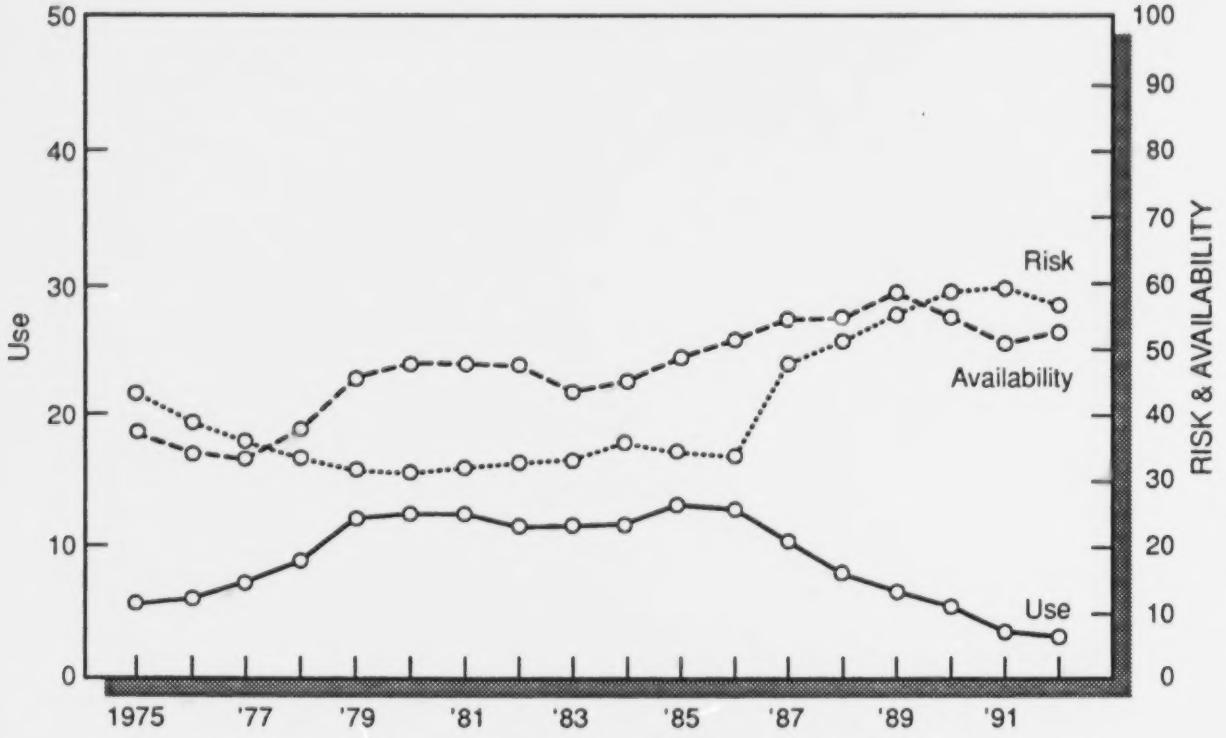


FIGURE 24

Cocaine: Trends in Perceived Availability, Perceived Risk of Trying, and Prevalence of Use in Past Year for Twelfth Graders



Use: % using once or more in past 12 months (on left hand scale)

Risk: % saying great risk of harm in using once or twice (on right hand scale)

Availability: % saying fairly easy or very easy to get (on right hand scale)

- By far the most impressive increase (in absolute terms) in perceived risk occurred for ***regular marijuana use***, where the proportion perceiving such use as involving a great risk doubled in just seven years, from 35% in 1978 to 70% in 1985. Subsequently, the proportion continued to increase, more slowly, reaching 79% in 1991. The dramatic change between 1978 and 1985 occurred during a period in which a substantial amount of scientific and media attention was being devoted to the potential dangers of heavy marijuana use. Young people also had ample opportunity for vicarious learning about the effects of heavy use through observation, because such use was so widespread among their peers. Increases in concerns about the harmfulness of occasional and even experimental use also occurred; these increases were even larger in proportional terms, though not in absolute terms. For example, the proportion of seniors seeing great risk in ***trying marijuana*** rose from 8% in 1978 to 27% in 1991, and the corresponding rise for ***occasional marijuana use*** was from 12% to 41%.

  In 1992, the long-term increase in perceived risk ceased, and perceived risk actually dropped, although none of the declines were statistically significant. Assuming the leveling off (or decline) is real, there are several possible explanations. One is that perhaps the perceived risk of marijuana use had reached an unrealistically high level of risk assessment, particularly relative to the risks posed by other drugs. Another possibility–not necessarily inconsistent with the first–is that some of the forces giving rise to the increases in perceived risk are becoming less influential. Some possibilities: (1) fewer of today's students are observing first-hand the effects of heavy marijuana use among their peers; (2) the media coverage of drugs and incidents resulting from drug use (particularly marijuana) has decreased substantially in recent years; and (3) the advertising campaign of the Partnership for a Drug-Free America is reaching fewer young people or becoming less salient for young people. Any or all of these factors could result in perceptions of risk not changing further, or even sliding back toward earlier levels.

- Returning to the large change which already has occurred, Figure 23 shows the trend in the perceived risk of regular marijuana use and the trend in thirty-day prevalence of use to illustrate more clearly their degree of covariance over time, which we interpret as reflecting a causal connection.[22] Also included is the trend line for the perceived

[22]We have addressed in a journal article an alternate hypothesis that a general shift toward a more conservative lifestyle might account for the shifts in both attitudes and behaviors. The empirical evidence tended to contradict that hypothesis. Bachman, J.G., Johnston, L.D., O'Malley, P.M., & Humphrey, R.H. (1988). Explaining the recent decline in marijuana use: Differentiating the effects of perceived risks, disapproval, and general lifestyle factors. *Journal of Health and Social Behavior, 29* 92-112. And Johnston (1982) showed that an increasing proportion of the quitters and abstainers from marijuana use were reporting concern over the physical and psychological consequences of use as reasons for their non-use. A review and analysis

availability of marijuana to show its lack of covariance with use, and thus its inability to explain the downturn.

It is worth noting that in 1992, the annual and 30-day prevalence rates for marijuana use continued to decline significantly, even though perceived risk did not rise further in that year–indeed, it declined, though not quite by a statistically significant amount. We have hypothesized that perceived risk operates not only directly on use, but also indirectly through its impact on personal disapproval; and that personal disapproval in turn operates directly on use, and in the collective, indirectly by influencing peer norms. Presumably there is some lag in the indirect effects taking place. While perceived risk did not rise in 1992 and, therefore cannot explain the downturn in use that year, personal disapproval did climb a little and, as we will see in the next chapter, perceived peer disapproval climbed a lot. Thus, even in the absence of simultaneous change in perceived risk, personal disapproval, and peer disapproval continued to change and may be the explanation for the continuing decline in marijuana use.

- A similar cross-time profile of attitudes has been emerging for ***cocaine*** (Figure 22a). First, the percentage who perceived great risk in ***trying cocaine*** once or twice dropped steadily from 43% to 31% between 1975 and 1980, which generally corresponds to the period of rapidly increasing use. However, rather than reversing sharply, as did perceived risk for marijuana, perceived risk for experimental cocaine use moved rather little for the next six years, 1980 to 1986, corresponding to a fairly stable period in terms of actual prevalence in use. Then in 1987 perceived risk for experimenting with cocaine jumped sharply from 34% to 48% in a single year and in that year the first significant decline in use took place. From 1987 to 1989 it continued to rise as use fell, but in 1991 it stabilized. Trends in attitudes toward ***crack*** have been similar to those of powder cocaine.

  We think these changes in beliefs had an important impact on the behavior. Perceived risk for ***regular cocaine use*** began to rise first, increasing gradually from 69% in 1980 to 82% in 1986; but we believe that change did not translate into a change in behavior, unlike what happened for marijuana, because so few high school seniors were regular users and most of them probably did not ever expect to be. Thus, as we had predicted earlier, it was not until seniors' attitudes about behaviors which they saw as relevant to themselves began to change (i.e., for experimental and occasional cocaine use) that these

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of recent changes in marijuana use by American young people. In *Marijuana: The national impact on education* (pp. 8-13). New York: American Council on Marijuana.

attitudes began to affect their behavior.[23,24] Figure 24 shows trends in perceived risk, perceived availability, and actual use simultaneously–again, to show how shifts in perceived risk could explain the downturn in use while shifts in availability could not.

Just as we interpret the change in actual behavior between 1986 and 1991 to have resulted from changes in the risk associated with experimental and occasional use, we believe the changes in these attitudes to have resulted from two other factors: (1) the greatly increased media coverage of cocaine and its dangers which occurred in that interval (including many anti-drug "spots") and (2) the widely publicized deaths in 1986 of sports stars Len Bias and Don Rogers, both of which were caused by cocaine. The latter events, we believe, helped to bring home first the notion, that no one–regardless of age or physical condition–is invulnerable to being killed by cocaine, and second the notion that one does not have to be an addict or regular user to suffer such adverse consequences. Clearly the addictive potential of cocaine has been emphasized in the media, as well.

As with marijuana, 1991 and 1992 saw a leveling and possibly even a reversal in the perceived risks of powder cocaine and crack cocaine. The same types of explanations come to mind here as those discussed above for marijuana. This could prove to be an important development if perceived risk is, as we believe, the strongest deterrent to use among young people. Any significant reversal of these beliefs could set the stage for a resurgence in use.

- Despite all that is known today about the health consequences of ***cigarette smoking***, about one-third (31%) of twelfth grade students still do not believe that there is a great risk in smoking a pack or more of cigarettes per day.

  Over a longer period, the number of seniors who thought ***pack-a-day cigarette smoking*** involved great risk to the user increased, from 51% in 1975 to 64% in 1980. This shift corresponded with, and to some degree preceded, the downturn in regular smoking found in this age group (compare Figures 9h and 29a). Between 1980 and 1984 this statistic showed no further increase, presaging the end of the decline in use. In the eight year interval since 1984, the percent perceiving great

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[23]See Bachman, J.G., Johnston, L.D., & O'Malley, P.M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior, 31*, 173-184. For a discussion of perceived risk in the larger set of factors influencing trends, and for a consideration of the forces likely to influence perceived risk, see also, Johnston, L.D. (1991). Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.) *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

[24]Our belief in the importance of perceived risk of experimental and occasional use led us to include in 1986 for the first time the question about the dangers of occasional use.

risk in regular smoking has risen only about five percentage points. As was mentioned above, considerably more of the younger children fail to recognize the risk associated with regular cigarette smoking.

- For most of the illicit drugs other than marijuana and cocaine, the period from 1975 to 1979 revealed a modest but consistent trend in the direction of fewer students associating much risk with experimental or occasional use of them (Table 20 and Figures 25a, 26a, 27a). Only for ***amphetamines*** and ***barbiturates*** did this trend continue beyond 1979, until about 1982. Over the next several years there was little change, although perceived risk of harm in experimental or occasional use of the illicit drugs other than marijuana all dropped slightly in 1985 and 1986. However, the perceived risk of experimental or occasional use increased for all drugs in 1987, but has pretty much stabilized through 1991.

- In sum, between 1975 and 1979 there was a distinct decline in perceived harmfulness associated with use of all the illicit drugs. After 1979, there was a dramatic increase in concerns about regular marijuana use, and a considerable increase in concerns about the use of marijuana at less frequent levels. After 1986 there was a sharp increase in the risks associated with cocaine use–particularly at the experimental and occasional use levels–and some increase in perceived risk for virtually all of the other illicit drugs, as well (Figures 25a, 26a, 27a). In 1992, however, most of these trends have leveled and some actually appear to have reversed.

- For ***LSD*** there was a significant decline in perceived risk in 1992, tending to confirm our concern that the attitudes of the newer generation of young people may not have been influenced by some of the direct and vicarious learning experiences which helped to make their predecessors more cautious about this drug (Figure 26a).

- ***Heroin*** and ***stimulants*** also saw significant declines in perceived risks in 1992; perceived risk of ***barbiturates*** declined as well, but not significantly (Figures 25a and 27a).

- The perceived risk of ***PCP***, though very high relative to other drugs in 1988, fell back by seven percentage points, before rising in 1992.

- After showing little systematic change in the latter half of the 1970s, the perceived risks associated with ***alcohol use*** at various levels have risen some during the 1980s (though not nearly so dramatically as the perceived risks associated with marijuana and cocaine). The proportions perceiving great risk of harm in having one or two drinks nearly every day rose from 20% in 1980 to 31% in 1992. The proportions perceiving great risk in having four or five drinks nearly every day rose slightly from 66% to 71% over the same period, while the corresponding figures for ***occasional binge drinking*** (having five

FIGURE 25a

Trends in Perceived Harmfulness of Amphetamine and Barbiturate Use for Twelfth Graders

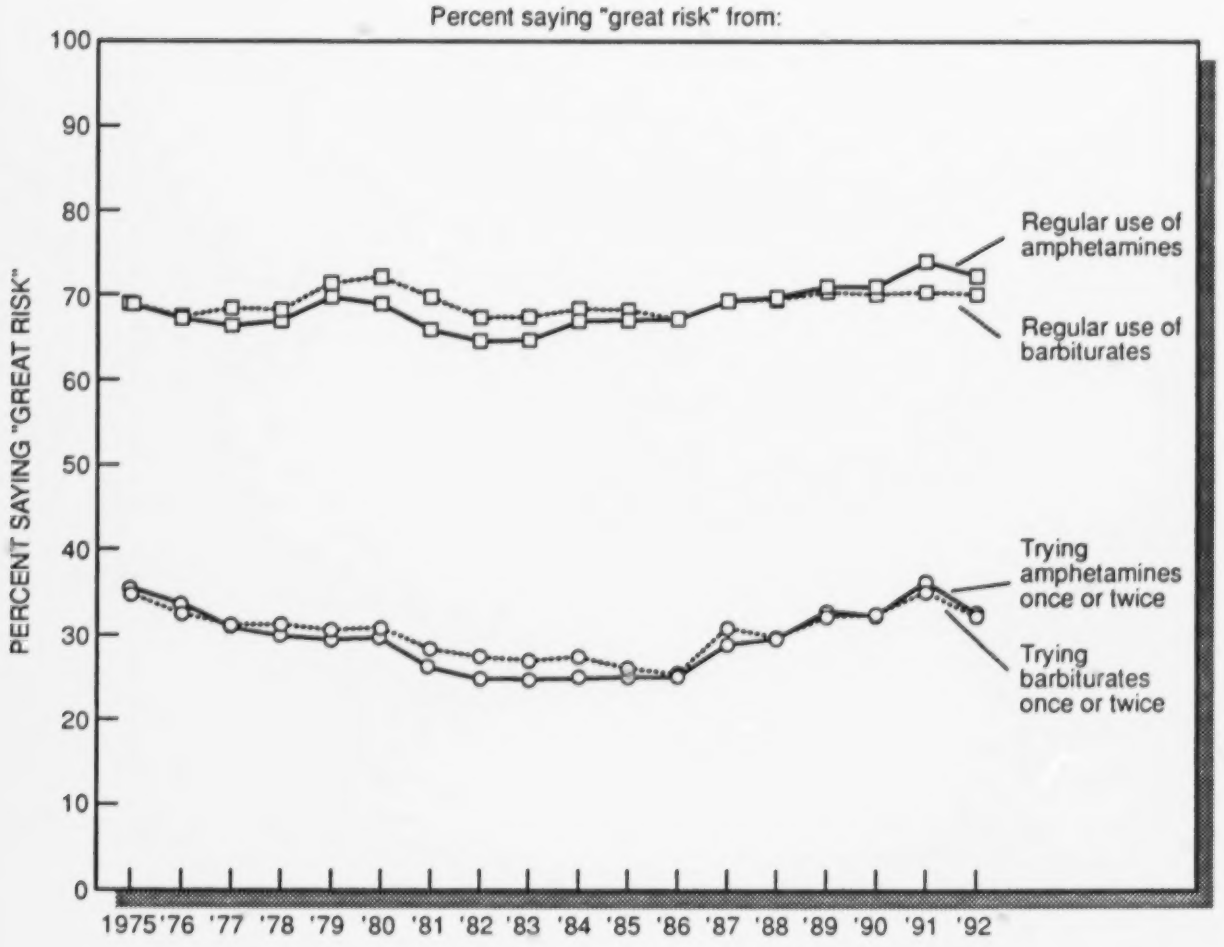


FIGURE 25b

Trends in Disapproval of Amphetamine and Barbiturate Use for Twelfth Graders

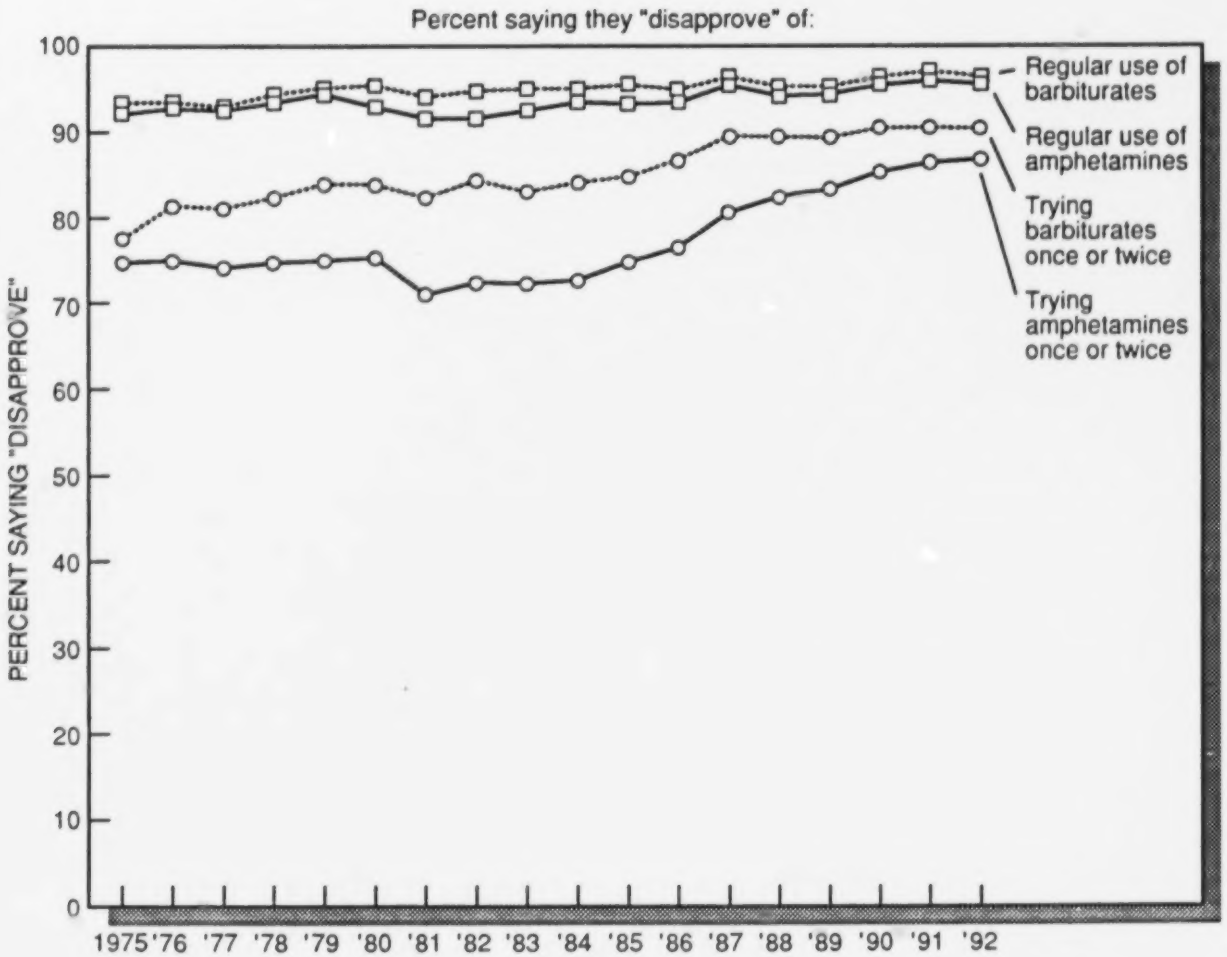


FIGURE 26a

Trends in Perceived Harmfulness of LSD Use for Twelfth Graders

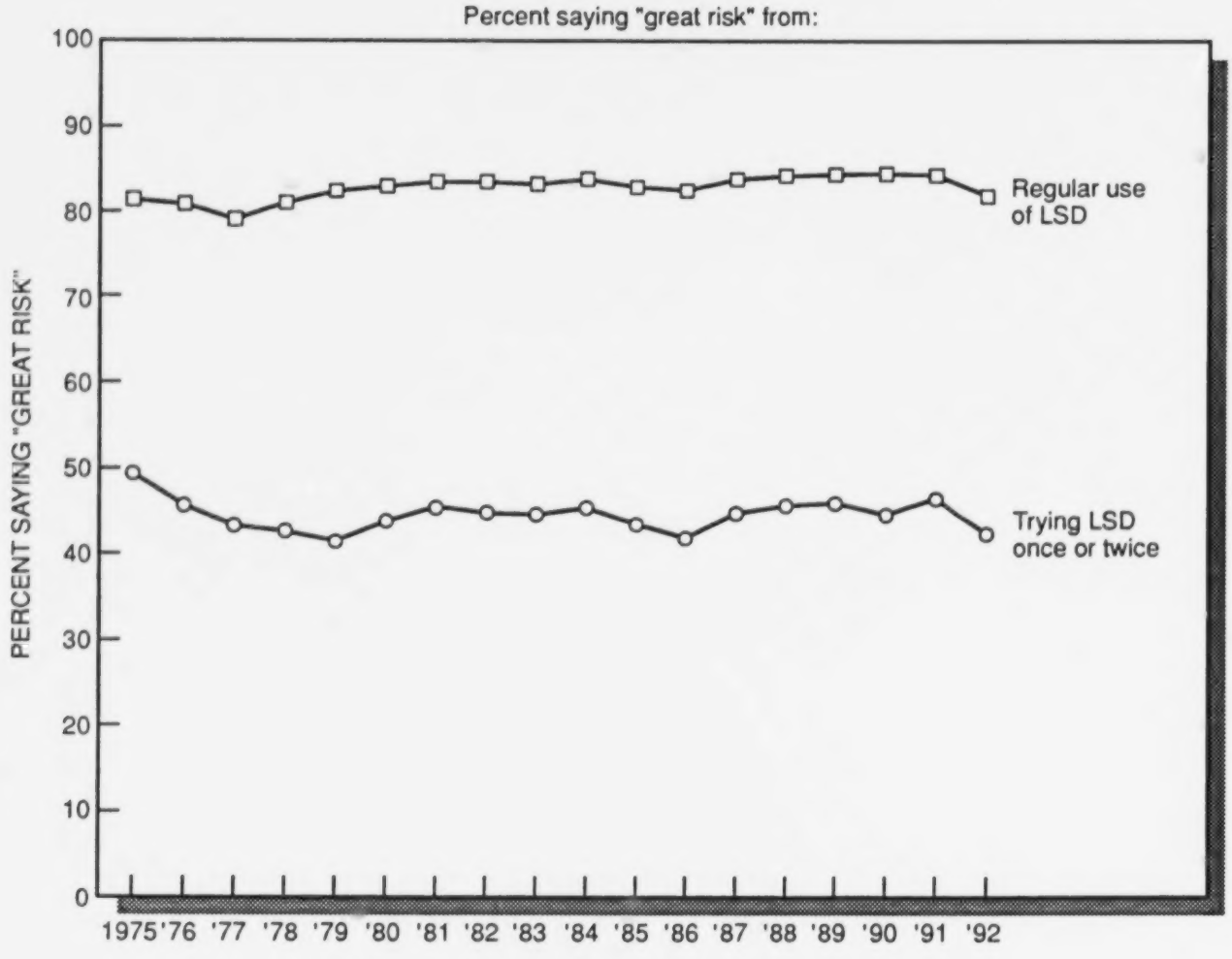


FIGURE 26b

Trends in Disapproval of LSD Use for Twelfth Graders

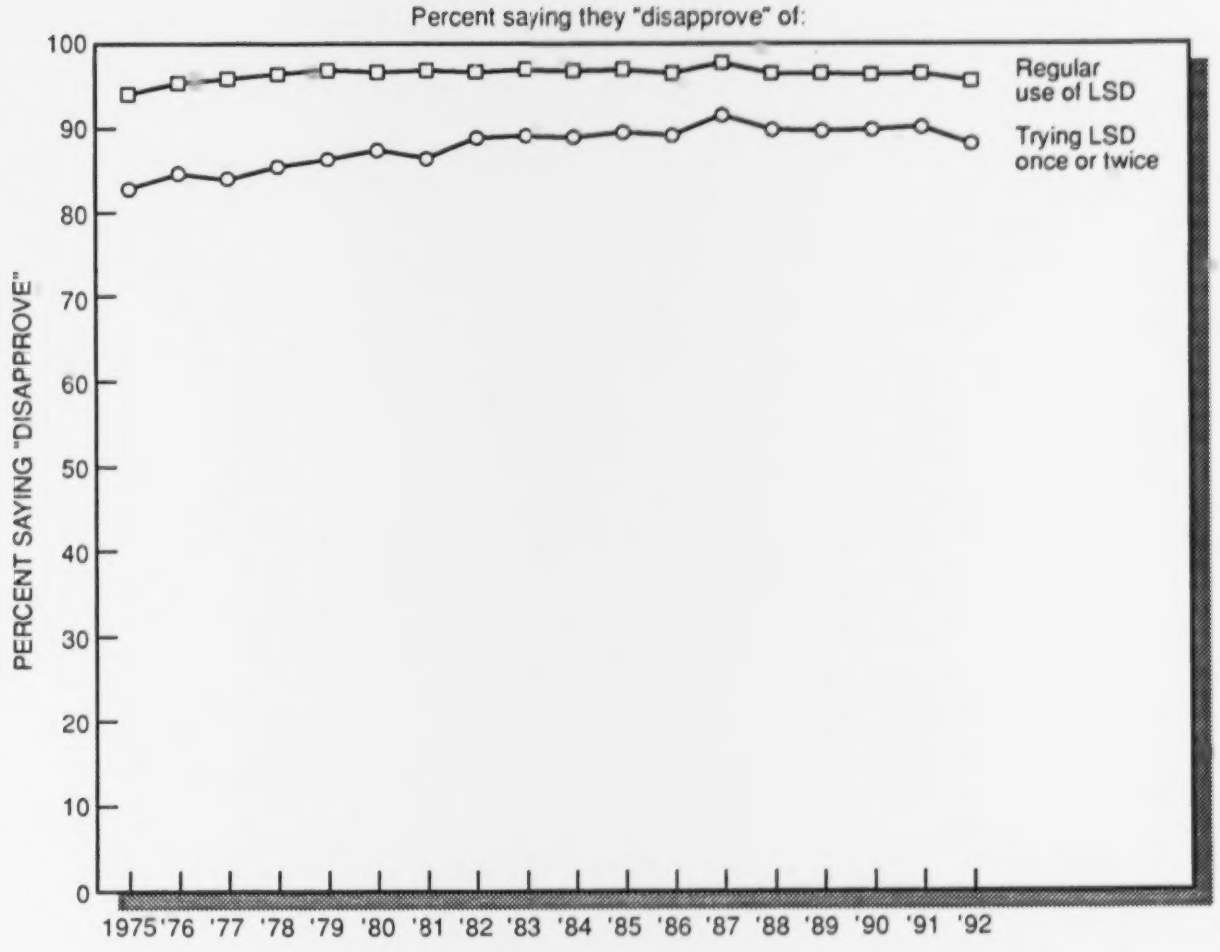


FIGURE 27a

Trends in Perceived Harmfulness of Heroin Use for Twelfth Graders

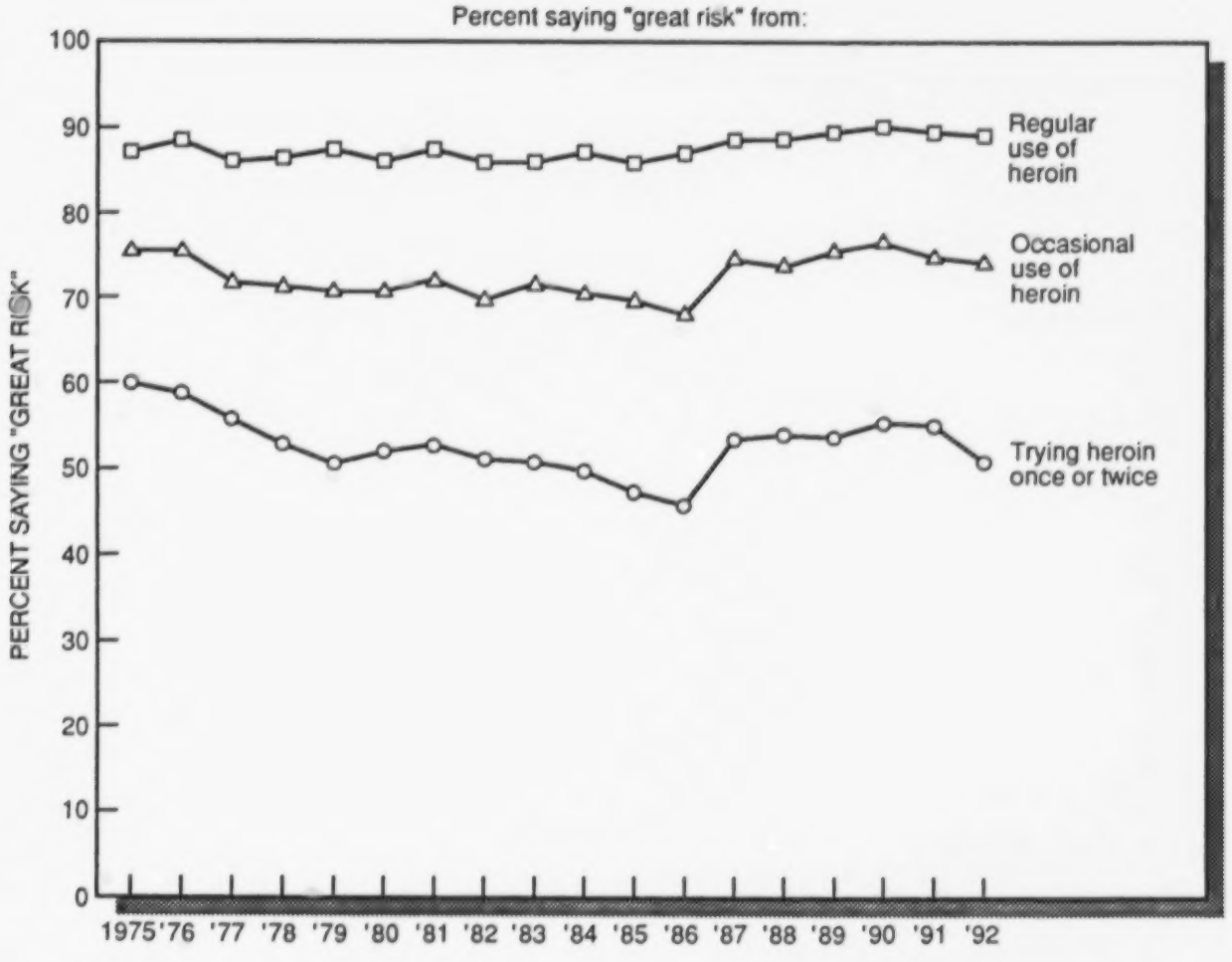


FIGURE 27b

Trends in Disapproval of Heroin Use for Twelfth Graders

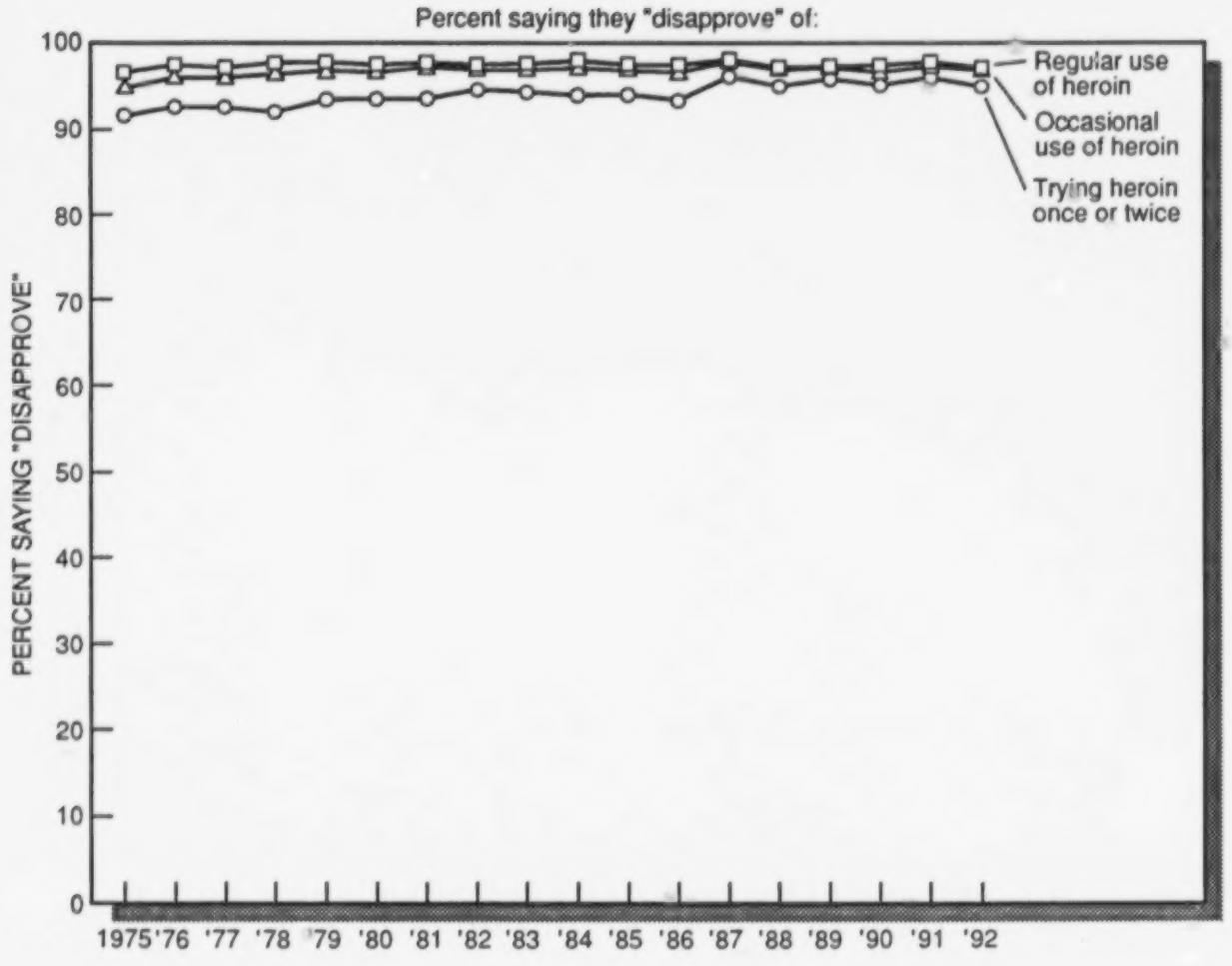


FIGURE 28a

Trends in Perceived Harmfulness of Alcohol Use for Twelfth Graders

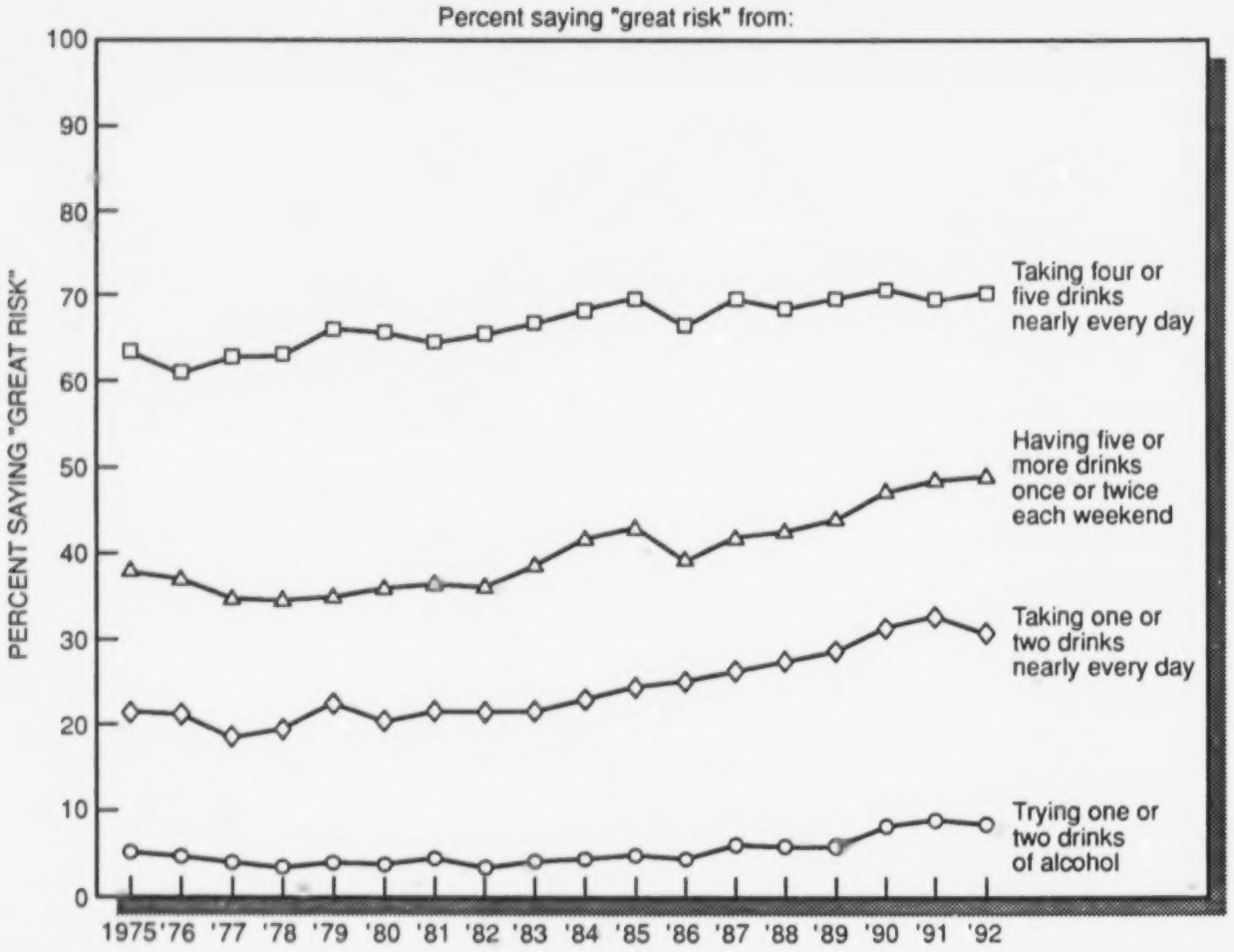


FIGURE 28b

Trends in Disapproval of Alcohol Use for Twelfth Graders

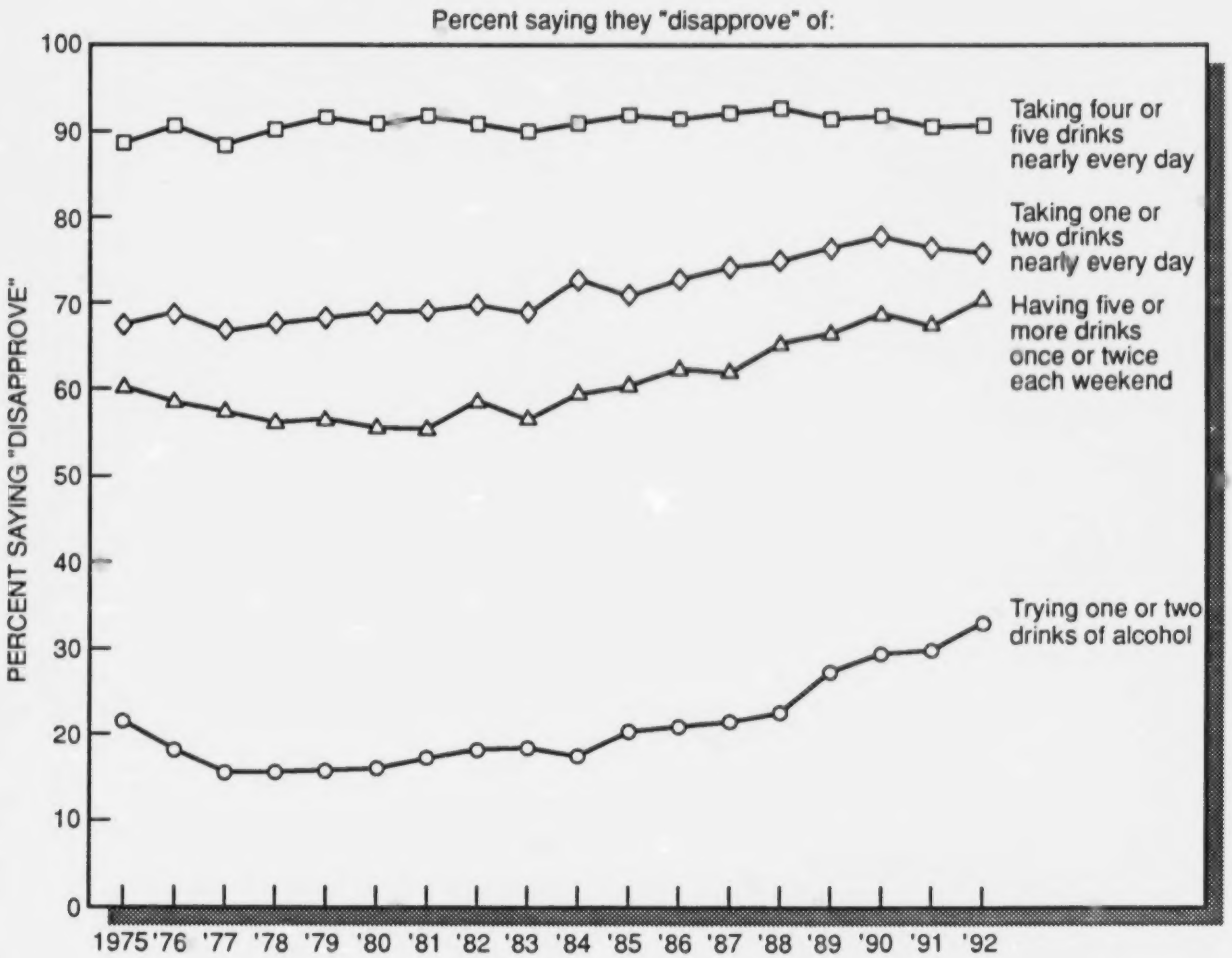


FIGURE 29a

Trends in Perceived Harmfulness of One or More Packs of Cigarettes per Day for Eighth, Tenth, and Twelfth Graders

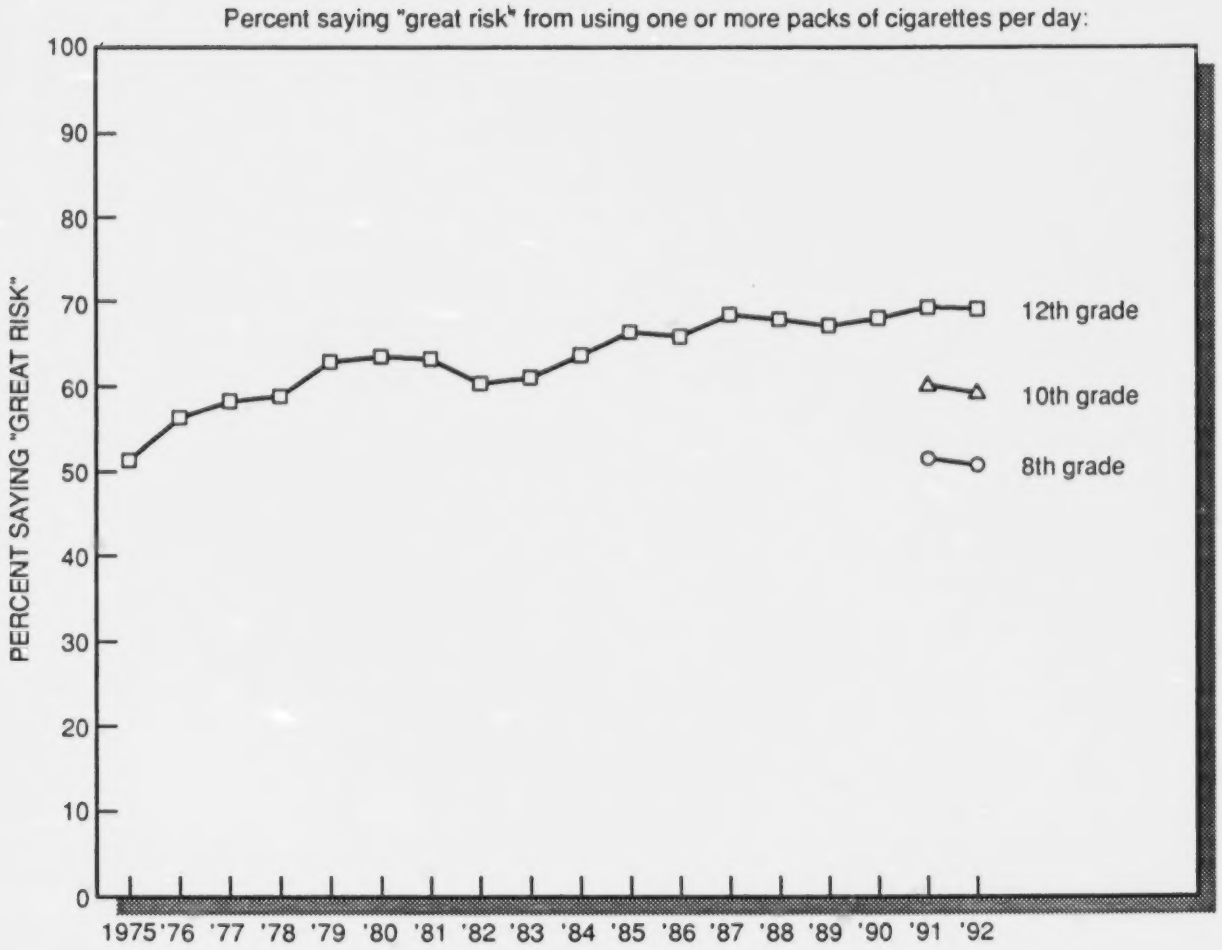
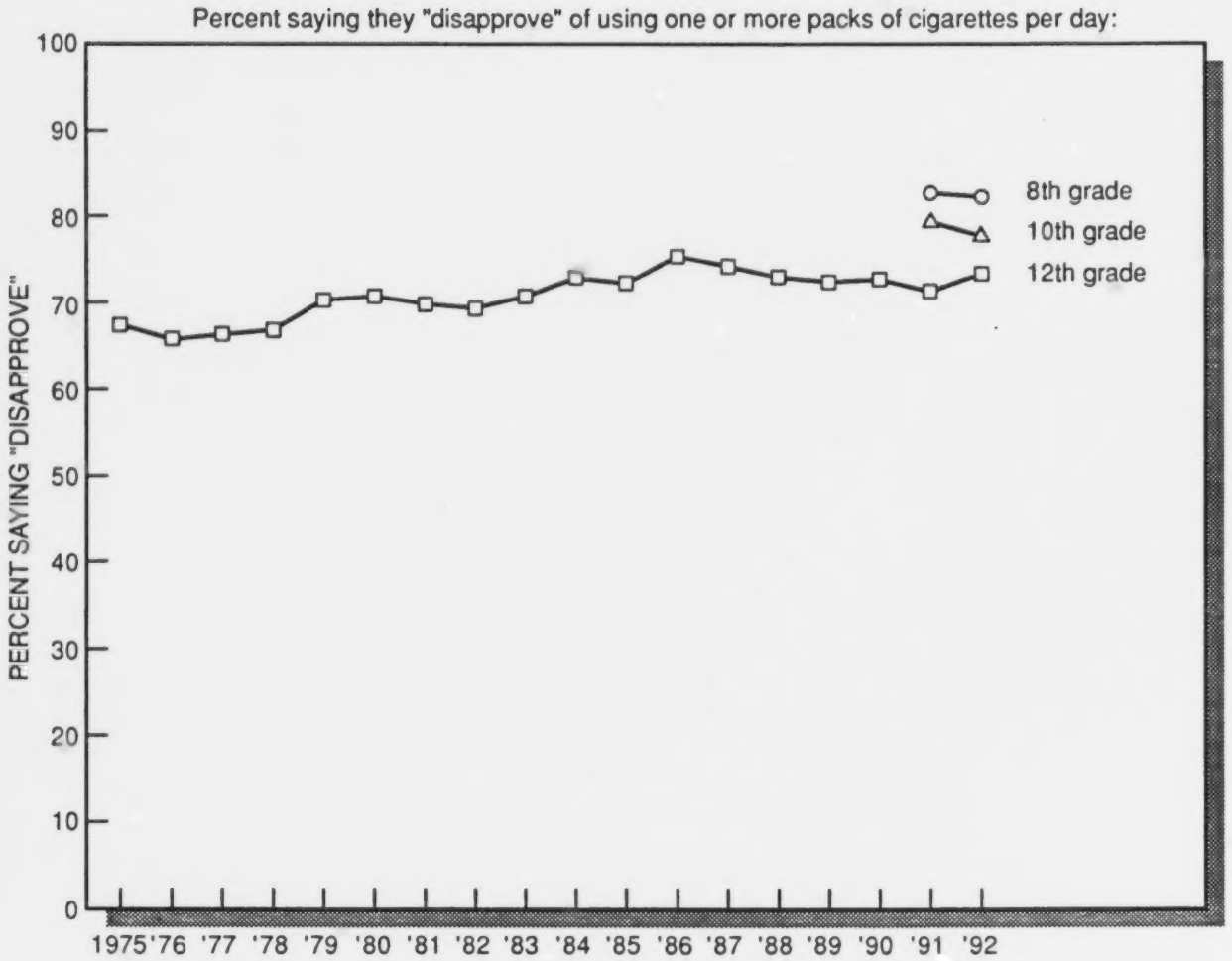


FIGURE 29b

Trends in Disapproval of One or More Packs of Cigarettes per Day for Eighth, Tenth, and Twelfth Graders



or more drinks once or twice a weekend) rose by more–from 36% to 49%. (Recall that the reported prevalence of occasional binge drinking declined in the same period, from 41% in 1980 to 28% in 1992.) These increases in perceived risk tended to be followed by some declines in the actual behaviors, once again suggesting the importance of these beliefs in influencing behavior. In 1992, however, there was little further change in these measures of perceived risk.

Trends in Perceived Harmfulness Among Eighth and Tenth Graders

- Data are not available in 1992 for many of the drugs on which there was a downturn in perceived risk among twelfth graders (e.g., ***LSD***, ***heroin***, and ***stimulants***). However, the eighth graders showed troublesome declines in perceived risk for a number of the illicit drugs about which they were asked: ***crack***, ***cocaine powder***, and ***marijuana*** (for which the decline was not statistically significant). See Table 19. The tenth graders showed significant declines in perceived risk for the regular use of ***inhalants***.

- *Because we see perceived risk as a central cause of the decline in various forms of illicit drug use, this softening in these beliefs is troublesome and could portend a reversal of the downward trends in illicit drug use.*

- One noteworthy change in a constructive direction occurred across all three grade levels in 1992 for ***steroids***. There were significant increases of between 5 and 6 percentage points across the three grade levels in respondents saying there is a "great risk" to the user in taking steroids. Between 70% and 73% of each grade level now report great risk. This suggests that the experience of professional football player, Lyle Alzado, which was widely publicized during that period, had an important effect on young people's beliefs about the damages of this drug. The effect this "negative role model" had was very similar to that of Len Bias on beliefs about the dangers of cocaine, except that in Lyle Alzado's case he became aware of the health consequences of his drug use well before his death, and intentionally set about making his experience an object lesson for young people.[25]

- The perceived risks of pack-a-day ***cigarette smoking***, which are already very low among the younger students, fell nonsignificantly in all three grade levels. In 1992 only 51% of the eighth graders report great risk associated with this behavior.

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[25]For a discussion of the importance of vicarious learning from negative role models see Johnston, L.D. (1991). Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 133-156). Hillsdale, NJ: Lawrence Erlbaum.

PERSONAL DISAPPROVAL OF DRUG USE

A different set of questions was developed to try to measure the moral sentiment respondents attach to various types of drug use. The phrasing, "Do you disapprove of people (who are 18 or older) doing each of the following" was adopted.

Extent of Disapproval Among Twelfth Graders

- The vast majority of seniors do not condone regular use of any of the illicit drugs (see Table 22). Even ***regular marijuana use*** is disapproved by 90%, and regular use of each of the other illicit drugs receives disapproval from between 94% and 98% of today's high school seniors.

- For each of the drugs included in the question, fewer people indicate disapproval of experimental or occasional use than of regular use, as would be expected. The differences are not great, however, for the illicit drugs other than marijuana, because nearly all seniors disapprove even of experimentation. For example, 88% disapprove experimenting with ***LSD***, 93% with ***cocaine***, and 95% with ***heroin***.

- For ***marijuana***, the rate of disapproval varies substantially for different usage habits, although not as much as it did in the past. Some 70% disapprove of trying it versus 90% who disapprove of regular use.

- Smoking a pack (or more) of ***cigarettes*** per day now receives the disapproval of 74% of the age group.

- Taking ***one or two drinks daily*** is disapproved by 76% of the seniors. A curious finding is that ***weekend binge drinking*** (five or more drinks once or twice each weekend) is acceptable to more seniors than is having one or two drinks daily. Only 71% disapprove of having five or more drinks once or twice a weekend in spite of the fact that more seniors associate great risk with weekend binge drinking (49%) than with having one or two drinks daily (31%).

  One likely explanation for these anomalous findings may be the fact that a greater proportion of this age group are themselves weekend binge drinkers rather than moderate daily drinkers. Therefore, they may express attitudes accepting of their own behavior, even though such attitudes may be somewhat inconsistent with their beliefs about possible consequences. It also may be that the ubiquitous advertising of alcohol use in "partying" situations has managed to increase acceptability from what it would be in the absence of such advertising.

TABLE 21

Trends in Disapproval of Drug Use by Eighth, Tenth, and Twelfth Graders, 1991–1992

Q. *Do you disapprove of people who...*	Percent who disapprove or strongly disapprove[a]								
	8th Grade			10th Grade			12th Grade[b]		
	1991	1992	'91–92 change	1991	1992	'91–92 change	1991	1992	'91–92 change
Try marijuana once or twice	84.6	82.1	–2.5sss	74.6	74.8	+0.2	68.7	69.9	+1.2
Smoke marijuana occasionally	89.5	88.1	–1.4s	83.7	83.6	–0.1	79.4	79.7	+0.3
Smoke marijuana regularly	92.1	90.8	–1.3s	90.4	90.0	–0.4	89.3	90.1	+0.8
Try inhalants once or twice	84.9	84.0	–0.9	85.2	85.6	+0.4	—	—	—
Take inhalants regularly	90.6	90.0	–0.6	91.0	91.5	+0.5	—	—	—
Try LSD once or twice	—	—	—	—	—	—	90.1	88.1	–2.0
Take LSD regularly	—	—	—	—	—	—	96.4	95.5	–0.9
Try crack once or twice	91.7	90.7	–1.0s	92.5	92.5	0.0	92.1	93.1	+1.0
Take crack occasionally	93.3	92.5	–0.8	94.3	94.4	+0.1	94.2	95.0	+0.8
Try cocaine powder once or twice	91.2	89.6	–1.6ss	90.8	91.1	+0.3	88.0	89.4	+1.4
Take cocaine powder occasionally	93.1	92.4	–0.7	94.0	94.0	0.0	93.0	93.4	+0.4
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	51.7	52.2	+0.5	37.6	39.9	+2.3s	29.8	33.0	+3.2s
Take one or two drinks nearly every day	82.2	81.0	–1.2	81.7	81.7	0.0	76.5	75.9	–0.6
Have five or more drinks once or twice each weekend	85.2	83.9	–1.3	76.7	77.6	+0.9	67.4	70.7	+3.3s
Smoke one or more packs of cigarettes per day	82.8	82.3	–0.5	79.4	77.8	–1.6	71.4	73.5	+2.1
Use smokeless tobacco regularly	79.1	77.2	–1.9s	75.4	74.6	–0.8	—	—	—
Take steroids	89.8	90.3	+0.5	90.0	91.0	+1.0	90.5	92.1	+1.6
Approx. N =	17390	18503		14750	14774		2547	2645	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, (3) Strongly disapprove. For 8th and 10th grades, there was another category–"Can't say, drug unfamiliar"–which was included in the calculation of these percentages.

[b]The twelfth grade questions ask about people who are 18 or older.

TABLE 22

Trends in Proportions of Twelfth Graders Disapproving of Drug Use

Q *Do you disapprove of people (who are 18 or older) doing each of the following?*[b]	Percentage "disapproving"[a]																		
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Try marijuana once or twice	47.0	38.4	33.4	33.4	34.2	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	60.8	64.6	67.8	68.7	69.9	+1.2
Smoke marijuana occasionally	54.8	47.8	44.3	43.5	45.3	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	74.0	77.2	80.5	79.4	79.7	+0.3
Smoke marijuana regularly	71.9	69.5	65.5	67.5	69.2	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	89.3	89.8	91.0	89.3	90.1	+0.8
Try LSD once or twice	82.8	84.6	83.9	85.4	86.6	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	89.8	89.7	89.8	90.1	88.1	–2.0
Take LSD regularly	94.1	95.3	95.8	96.4	96.9	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	96.4	96.4	96.3	96.4	95.5	–0.9
Try cocaine once or twice	81.3	82.4	79.1	77.0	74.7	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5	93.6	93.0	–0.6
Take cocaine regularly	93.3	93.9	92.1	91.9	90.8	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	96.2	96.4	96.7	97.3	96.9	–0.4
Try crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.3	92.1	93.1	+1.0
Take crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.3	94.2	95.0	+0.8
Take crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.9	95.0	95.5	+0.5
Try coke powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.9	88.0	89.4	+1.4
Take coke powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.1	93.0	93.4	+0.4
Take coke powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	93.7	94.4	94.3	–0.1
Try heroin once or twice	91.5	92.6	92.5	92.0	93.4	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	95.0	95.4	95.1	96.0	94.9	–1.1
Take heroin occasionally	94.8	96.0	96.0	96.4	96.8	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	96.9	97.2	96.7	97.3	96.8	–0.5
Take heroin regularly	96.7	97.5	97.2	97.8	97.9	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	97.2	97.4	97.5	97.8	97.2	–0.6
Try amphetamines once or twice	74.8	75.1	74.2	74.8	75.1	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3	86.5	86.9	+0.4
Take amphetamines regularly	92.1	92.8	92.5	93.5	94.4	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5	96.0	95.6	–0.4
Try barbiturates once or twice	77.7	81.3	81.1	82.4	84.0	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5	90.6	90.3	–0.3
Take barbiturates regularly	93.3	93.6	93.0	94.3	95.2	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4	97.1	96.5	–0.6
Try one or two drinks of an alcoholic beverage beer, wine, liquor	21.6	18.2	15.6	15.6	15.8	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	22.6	27.3	29.4	29.8	33.0	+3.2s
Take one or two drinks nearly every day	67.6	68.9	66.8	67.7	68.3	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9	76.5	75.9	–0.6
Take four or five drinks nearly every day	88.7	90.7	88.4	90.2	91.7	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	92.8	91.6	91.9	90.6	90.8	+0.2
Have five or more drinks once or twice each weekend	60.3	58.6	57.4	56.2	56.7	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	65.3	66.5	68.9	67.4	70.7	+3.3s
Smoke one or more packs of cigarettes per day	67.5	65.9	66.4	67.0	70.3	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8	71.4	73.5	+2.1
Take steriods	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.8	90.5	92.1	+1.6
Approx N =	2677	2957	3085	3686	3221	3261	3610	3651	3341	3254	3265	3113	3302	3311	2799	2566	2547	2645	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.
[b]The 1975 question asked about people who are "20 or older."

Extent of Disapproval Among Eighth and Tenth Graders

- The rates of disapproval of drug use among the younger students are as high as, or higher than, they are among seniors (see Table 21).

- All three grade levels show very high and fairly comparable levels of disapproval for ***cocaine powder*** and ***crack***.

- The same is true for the use of ***steroids***.

- Attitudes about ***inhalant*** use have been asked only of the eighth and tenth grade students, and in both cases about 85% say they disapprove of trying them.

- ***Marijuana*** shows the greatest age-related difference in disapproval rates. The rates of disapproval of marijuana use go up as one moves down in grade level. To illustrate, 70% of twelfth graders disapprove of trying marijuana, 75% of tenth graders, and 82% of eighth graders. There may, of course, be some tendency for these attitudes to shift with age, but it is also possible that these differences reflect some important differences between class cohorts.

- For ***alcohol***, disapproval also increases as one moves down in grade level. For example, 71% of the seniors, 78% of the tenth graders, and 84% of the eighth graders disapprove of weekend binge drinking. Because of the recent shifts in the minimum drinking ages in a number of states, we think it quite possible that a cohort shift in attitudes about drinking is taking place, since for the younger cohorts teenage drinking has been illegal for a greater proportion of their lives.

- Similarly, for ***cigarette*** use, 74% of seniors, 78% of tenth graders, and 82% of eighth graders disapprove of smoking one or more packs per day. Oddly enough, the eighth graders, who are least likely to see regular smoking as dangerous, are the most likely to disapprove of it.

TRENDS IN DISAPPROVAL OF DRUG USE

Trends in Disapproval Among Twelfth Graders

- Between 1975 and 1977 a substantial decrease occurred in disapproval of ***marijuana*** use at any level of frequency (see Table 22, and Figure 21b). About 14% fewer seniors in the class of 1977 (compared with the class of 1975) disapproved of experimenting, 11% fewer disapproved of occasional use, and 6% fewer disapproved of regular use. These undoubtedly were continuations of trends which began in the late 1960s, as the norms of American young people against illicit drug use were seriously eroded. Between 1977 and 1990, however, there was a

very substantial reversal of that trend, with disapproval of experimental marijuana use having risen by 37 percentage points, disapproval of occasional use by 35 percentage points, and disapproval of regular use by 25 percentage points. There were no further significant changes in 1991 or 1992, though disapproval of experimental use continued to rise.

- Until 1980 the proportion of seniors who disapproved of trying ***amphetamines*** had remained extremely stable (at 75%). This proportion dropped slightly in 1981 (to 71%), but increased thereafter and reached 87% in 1991. There was no further change in 1992.

- During the late 1970s, personal disapproval of experimenting with ***barbiturates*** increased (from 78% in 1975 to 84% in 1979) and remained relatively stable through 1984, when it began to increase again. By 1990 disapproval had reached 91% and has changed little since.

- Concurrent with the years of increase in actual ***cocaine*** use, disapproval of experimental use of cocaine declined somewhat, from a high of 82% in 1976 down to 75% in 1979. It then leveled for four years, edged upward for a couple of years to about 80% in 1986, and since then has risen significantly so that 93% of seniors now disapprove of trying cocaine. Again, there was no significant change in 1992.

- We believe that the parallel trends between perceived risk and disapproval–particularly for marijuana and cocaine–are no accident. As noted above, we hypothesize that perceived risk is an important influence on an individual's level of disapproval of a drug-using behavior, though there surely are other influences, as well. As levels of personal disapproval change, and these individually held attitudes are communicated among friends and acquaintances, perceived norms also change (as will be illustrated in the next chapter). It is noteworthy that as perceived risk for most of the illicit drugs began to reverse by 1991 or 1992, personal disapproval for virtually all of them appeared to level.

- Despite the large changes which seem to have taken place among adults, disapproval of ***regular cigarette smoking*** (a pack or more per day) has changed surprisingly little throughout this study. Disapproval increased from 68% to 71% between 1975 and 1980. During the 1980s and into the 1990s, disapproval rates fluctuated slightly, never exceeding 75%; and in 1992 the disapproval rate is 74%. This lack of change is surprising because of all the anti-smoking laws and policies that have been enacted. Very likely, the efforts of the tobacco industry in promoting and advertising tobacco to young people help account for the lack of change in disapproval.

- Disapproval of alcohol use has risen gradually since 1980. Disapproval of weekend ***binge drinking*** has risen by 15 percentage points, from 56% in 1980 to a high of 71% in 1992. The proportion of seniors who disapprove of even ***trying alcohol*** has doubled, from a low point of 16% in 1980 to 33% in 1992. Both of these attitudes showed a significant increase in 1992. It seems likely that the increased minimum drinking age in many states, which occurred primarily between 1981 and 1987, is contributing to these changes in attitude about abstention, since most seniors today grew up under the higher minimum drinking age. If so, this illustrates the considerable capacity of laws to influence informal norms.

Trends in Disapproval Among Eighth and Tenth Graders

Table 21 provides the one-year trends (1991-1992) in disapproval, which is all that is available for the lower grade levels.

- It shows nonsignificant changes in 1992 in disapproval for any of the illicit drugs among tenth and twelfth graders.

- However, among the eighth graders, for whom we have seen declines in perceived risk and increases in use in 1992, it shows statistically significant drops in their disapproval of the use of ***marijuana***, ***crack***, and ***cocaine powder***.

- There was also a significant decline in their disapproval of using ***smokeless tobacco***.

- Only for the use of ***alcohol*** were there any significant increases in disapproval, with an increasing proportion of tenth and twelfth graders saying they disapprove of *any drinking*. In other words, more now favor complete abstention. Also, ***weekend binge drinking***, which is the least disapproved by twelfth graders, did show a significant rise in the proportion of them disapproving.

ATTITUDES REGARDING THE LEGALITY OF DRUG USE

At the beginning of the study, the legal restraints on drug use appeared likely to be in a state of flux for some time; therefore, we decided to measure attitudes about legal sanctions. As it turns out, some dramatic changes in these attitudes have occurred during the life of the study. Table 23 presents a set of questions on this subject along with the answers provided by each senior class. The set lists a sampling of illicit and licit drugs and asks whether their use should be prohibited by law. A distinction is consistently made between use in public and use in private–a distinction which proved quite important in the results. (These questions are not asked of the eighth and tenth grade respondents.)

Attitudes of Twelfth Graders

- The great majority of seniors believe that the use in public of ***illicit drugs other than marijuana*** should be prohibited by law. For instance, in the case of amphetamines and barbiturates, 79% of the seniors believed that use should be prohibited, and 83% believe heroin should be prohibited. While the distinction between attitudes about the legality of use in public versus private settings proved to be an important one, today only about 10% to 20% fewer think the use of these drugs in private should be legally prohibited.

- The great majority (78%) also favor legally prohibiting ***marijuana*** use in public places. Despite the fact that almost one-third of seniors have used marijuana themselves, and despite the fact that they do not judge it to be as dangerous a drug as the others, the majority of seniors favor prohibiting marijuana use in public places. Considerably fewer (52%) feel that marijuana use in private should be prohibited.

- Fully 48% of twelfth graders believe that ***cigarette*** smoking in public places should be prohibited by law. Slightly more think ***getting drunk*** in such places should be prohibited (54%).

- For ***all drugs***, fewer seniors believe that use in private settings should be illegal. This is particularly true for alcohol and marijuana.

Trends in These Attitudes Among Twelfth Graders

- From 1975 through 1977 there was a modest decline (shifts of 4% to 7%, depending on the substance) in the proportion of seniors who favored legal prohibition of private use of ***any of the illicit drugs***. By 1990, however, virtually all of these proportions had increased.

- Over the thirteen year interval, from 1977 to 1990, there has been a very appreciable rise in the proportion favoring legal prohibition of ***marijuana*** use, either in private (up from 29% to 56%) or in public (up from 59% to 82%).

- For other illicit drugs, (***LSD, heroin, amphetamines***, and ***barbiturates***), the changes were more modest, but between 1981 and 1987 all showed increased proportions favoring prohibition.

- Since 1990, there has been some softening of seniors' positions on all of the illegal drugs.

TABLE 23

Trends in Twelfth Graders' Attitudes Regarding Legality of Drug Use

Q. *Do you think that people (who are 18 or older) should be prohibited by law from doing each of the following?*[b]	Percentage saying "yes"[a]																		
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Smoke marijuana in private	32.8	27.5	26.8	25.4	28.0	28.9	35.4	36.6	37.8	41.6	44.7	43.8	47.6	51.8	51.5	56.0	51.6	52.4	+0.8
Smoke marijuana in public places	63.1	59.1	58.7	59.5	61.8	66.1	67.4	72.8	73.6	75.2	78.2	78.9	79.7	81.3	80.0	81.9	79.8	78.3	-1.5
Take LSD in private	67.2	65.1	63.3	62.7	62.4	65.8	62.6	67.1	66.7	67.9	70.6	69.0	70.8	71.5	71.6	72.9	68.1	67.2	-0.9
Take LSD in public places	85.8	81.9	79.3	80.7	81.5	82.8	80.7	82.1	82.8	82.4	84.8	84.9	85.2	86.0	84.4	84.9	83.9	82.2	-1.7
Take heroin in private	76.3	72.4	69.2	68.8	68.5	70.3	68.8	69.3	69.7	69.8	73.3	71.7	75.0	74.2	74.4	76.4	72.8	71.4	-1.4
Take heroin in public places	90.1	84.8	81.0	82.5	84.0	83.8	82.4	82.5	83.7	83.4	85.8	85.0	86.2	86.6	85.2	86.7	85.4	83.3	-2.1
Take amphetamines or barbiturates in private	57.2	53.5	52.8	52.2	53.4	54.1	52.0	53.5	52.8	54.4	56.3	56.8	59.1	60.2	61.1	64.5	59.7	60.5	+0.8
Take amphetamines or barbiturates in public places	79.6	76.1	73.7	75.8	77.3	76.1	74.2	75.5	76.7	76.8	78.3	79.1	79.8	80.2	79.2	81.6	79.7	78.5	-1.2
Get drunk in private	14.1	15.6	18.6	17.4	16.8	16.7	19.6	19.4	19.9	19.7	19.8	18.5	18.6	19.2	20.2	23.0	22.0	24.4	+2.4
Get drunk in public places	55.7	50.7	49.0	50.3	50.4	48.3	49.1	50.7	52.2	51.1	53.1	52.2	53.2	53.8	52.6	54.6	54.3	54.1	-0.2
Smoke cigarettes in certain specified public places	NA	NA	42.0	42.2	43.1	42.8	43.0	42.0	40.5	39.2	42.8	45.1	44.4	48.4	44.5	47.3	44.9	47.6	+2.7
Approx. N =	2620	2959	3113	3783	3288	3224	3611	3627	3315	3236	3254	3074	3332	3288	2813	2571	2512	2671	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

[a]Answer alternatives were: (1) No, (2) Not sure, and (3) Yes.
[b]The 1976 question asked about people who are "20 or older."

- There has been rather little change in the proportion of seniors who say ***smoking cigarettes*** in certain specified public places should be prohibited by law. In 1977 some 42% held this view vs. 43% in 1985, and 48% in 1992. Were the question more specific as to the places in which smoking might be prohibited (e.g., hospitals, restaurants, etc.) different results might emerge.

- There has been little change in seniors' preferences about the illegality of ***drunkenness*** in public or private places, though what change has occurred has been in the direction of less tolerance of these behaviors. The stability of attitudes about the preferred legality for this culturally ingrained drug-using behavior contrasts sharply with the lability of preferences regarding the legality of the illicit drugs.

THE LEGAL STATUS OF MARIJUANA

Another set of questions goes into more detail about what legal sanctions, if any, seniors think should be attached to the use and sale of marijuana. Respondents also are asked to guess how they would be likely to react to legalized use and sale of the drug. While the answers to such a hypothetical question must be interpreted cautiously, a special study of the effects of marijuana decriminalization at the state level, conducted as part of the Monitoring the Future series, suggests that in the aggregate their predictions about how they would react proved relatively accurate.[26]

Attitudes and Predicted Responses to Legalization

- As shown in Table 24, in 1992 roughly half (48%) of all seniors believe that marijuana use should still be treated as a crime. Less than a fifth think it should be entirely legal (19%), about another one-fifth (18%) feel it should be treated as a minor violation–like a parking ticket–but not as a crime. Another 16% indicate no opinion.

- Asked whether they thought it should be legal to sell marijuana if it were legal to use it, about half (49%) said "yes." However, nearly all of these respondents would permit sale *only* to adults.

- High school seniors predict that they would be little affected personally by the legalization of either the sale or the use of marijuana. Nearly three-fourths (73%) of the respondents say that they would not use the drug even if it were legal to buy and use, and another 11% indicate they would use it about as often as they do now, or less. Only 3% say they would use it more often than at present and only another 7% think they would try it. Some 6% say they do not know how they would react.

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[26] See Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1981). *Marijuana decriminalization: The impact on youth, 1975-1980* (Monitoring the Future Occasional Paper No. 13). Ann Arbor: Institute for Social Research.

TABLE 24

Trends in Twelfth Graders' Attitudes Regarding Marijuana Laws

(Entries are percentages)

Q *There has been a great deal of public debate about whether marijuana use should be legal. Which of the following policies would you favor?*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992
Using marijuana should be entirely legal	27.3	32.6	33.6	32.9	32.1	26.3	23.1	20.0	18.9	18.6	16.6	14.9	15.4	15.1	16.0	15.9	18.0	18.7
It should be a minor violation like a parking ticket but not a crime	25.3	29.0	31.4	30.2	30.1	30.9	29.3	28.2	26.3	23.6	25.7	25.9	24.6	21.9	18.9	17.4	19.2	18.0
It should be a crime	30.5	25.4	21.7	22.2	24.0	26.4	32.1	34.7	36.7	40.6	40.8	42.5	45.3	49.2	50.0	53.2	48.6	47.6
Don't know	16.8	13.0	13.4	14.6	13.8	16.4	15.4	17.1	18.1	17.2	16.9	16.7	14.8	13.9	14.6	13.6	14.3	15.7
Q *If it were legal for people to USE marijuana, should it also be legal to SELL marijuana?*																		
No	27.8	23.0	22.5	21.8	22.9	25.0	27.7	29.3	27.4	30.9	32.6	33.0	36.0	36.8	38.8	40.1	36.8	37.8
Yes, but only to adults	37.1	49.8	52.1	53.6	53.2	51.8	48.6	46.2	47.6	45.8	43.2	42.2	41.2	39.9	37.9	38.8	41.4	39.5
Yes, to anyone	16.2	13.3	12.7	12.0	11.3	9.6	10.5	10.7	10.5	10.6	11.2	10.4	9.2	10.5	9.2	9.6	9.4	9.6
Don't know	18.9	13.9	12.7	12.6	12.6	13.6	13.2	13.8	14.6	12.8	13.1	14.4	13.6	12.8	14.1	11.6	12.5	13.1
Q *If marijuana were legal to use and legally available, which of the following would you be most likely to do?*																		
Not use it, even if it were legal and available	53.2	50.4	50.6	46.4	50.2	53.3	55.2	60.0	60.1	62.0	63.0	62.4	64.9	69.0	70.1	72.9	70.7	72.5
Try it	8.2	8.1	7.0	7.1	6.1	6.8	6.0	6.3	7.2	6.6	7.5	7.6	7.3	7.1	6.7	7.0	6.3	7.4
Use it about as often as I do now	22.7	24.7	26.8	30.9	29.1	27.3	24.8	21.7	19.8	19.1	17.7	16.8	16.2	13.1	13.0	10.1	11.7	10.2
Use it more often than I do now	6.0	7.1	7.4	6.3	6.0	4.2	4.7	3.8	4.9	4.7	3.7	5.0	4.1	4.3	2.4	2.7	3.3	3.2
Use it less than I do now	1.3	1.5	1.5	2.7	2.5	2.6	2.5	2.2	1.5	1.6	1.6	2.0	1.3	1.5	2.1	1.1	1.6	1.0
Don't know	8.5	8.1	6.6	6.7	6.1	5.9	6.9	6.0	6.4	6.0	6.5	6.1	6.3	5.0	5.7	6.1	6.4	5.7
Approx. N =	2600	2970	3110	3710	3280	3210	3600	3620	3300	3220	3230	3080	3330	3277	2812	2570	2515	2672

The special study of the effects of decriminalization at the state level during the late 1970s (which falls well short of the fully-legalized situation posited in this question) revealed no evidence of any impact of decriminalization on the use of marijuana, nor even on attitudes and beliefs concerning its use. On the other hand, the times today are very different, with more peer disapproval and more rigorous enforcement, and the symbolic message of legalizing or decriminalizing marijuana would likely be different, as well. Therefore, we do not believe that those findings from the late 1970s can be validly generalized to the legalization of marijuana today.

Trends in Attitudes and Predicted Responses

- In recent years American young people have become much more supportive of legal prohibitions on the use of illegal drugs, whether used in private or in public.

- Between 1976 and 1979 seniors' preferences for decriminalization or legalization remained fairly constant; but in the past thirteen years the proportion favoring outright legalization dropped by almost half (from 32% in 1979 to 19% in 1992), while there was a corresponding doubling in the proportion saying marijuana use should be a crime (from 24% to 48%). Also reflecting this increased conservatism about marijuana, somewhat fewer now would support legalized *sale*, even if *use* were to be made legal (down from 65% in 1979 to 49% in 1992).

- The predictions about personal marijuana use, if sale and use were legalized, have been quite similar for all high school classes. The slight shifts being observed are mostly attributable to the changing proportions of seniors who actually use marijuana.

- As with all of the other attitudes and beliefs examined in this chapter, however, the long term anti-drug changes appeared to level or reverse in 1991 and 1992. This is an important development that we will be following closely in the coming year.

Chapter 9

THE SOCIAL MILIEU

The preceding chapter dealt with students' own attitudes about various forms of drug use. Attitudes about drugs, as well as drug-related behaviors, obviously do not occur in a social vacuum. Drugs are discussed in the media; they are a topic of considerable interest and conversation among young people; they are also a matter of much concern to parents, concern which often is strongly communicated to their children. Young people are known to be affected by the actual drug-taking behaviors of their friends and acquaintances, as well as by the availability of the various drugs. This section presents data on several of these relevant aspects of the social milieu.

We begin with two sets of questions about parental and peer attitudes, questions which closely parallel the questions about respondents' own attitudes about drug use, discussed in the preceding chapter. Since measures of parental attitudes have not been carried in the study in recent years, those mentioned here are based on the much earlier 1979 results.

PERCEIVED ATTITUDES OF PARENTS AND FRIENDS: TWELFTH GRADERS

Perceptions of Parental Attitudes

- A large majority of seniors in 1979 felt that their parents would disapprove or strongly disapprove of their exhibiting ***any of the drug use behaviors*** which are listed in Table 25. (The data for the perceived parental attitudes are not given in tabular form, but are displayed in Figures 30a and 30b and 31.) In fact, because there was so little variability in the students' answers to these questions, they were dropped to make room for other questions. With the changing climate in recent years, as exemplified by the dramatic shifts in students' attitudes, it seems likely that parental attitudes would be even more restrictive today.

- Drug use appears to constitute one area in which the position of parents approaches complete unanimity. Over 97% of seniors said that their parents would disapprove or strongly disapprove of their smoking ***marijuana*** regularly, even trying ***LSD*** or ***amphetamines***, or having four or five ***drinks*** every day. (Although the questions did not include more frequent use of LSD or amphetamines, or any use of heroin, it is obvious that if such behaviors had been included in the list virtually all seniors would have indicated parental disapproval.)

TABLE 25

Trends in Proportion of Friends Disapproving of Drug Use

Twelfth Graders

Q *How do you think your close friends feel (or would feel) about you ...*	Percentage saying friends disapprove[a]																		
	Class of 1975[b]	Class of 1976	Class of 1977[b]	Class of 1978	Class of 1979[b]	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Trying marijuana once or twice	*44.3*	—	*41.8*	—	*40.9*	42.6	46.4	50.3	52.0	54.1	54.7	56.7	58.0	62.9	63.7	70.3	69.7	73.1	+3.4s
Smoking marijuana occasionally	*54.8*	—	*49.0*	—	*48.2*	50.6	55.9	57.4	59.9	62.9	64.2	64.4	67.0	72.1	71.1	76.4	75.8	79.2	+3.4s
Smoking marijuana regularly	*75.0*	—	*69.1*	—	*70.2*	72.0	75.0	74.7	77.6	79.2	81.0	82.3	82.9	85.5	84.9	86.7	85.9	88.0	+2.1
Trying LSD once or twice	*85.6*	—	*86.6*	—	*87.6*	87.4	86.5	87.8	87.8	87.6	88.6	89.0	87.9	89.5	88.4	87.9	87.9	87.3	-0.6
Trying cocaine once or twice	—	—	—	—	—	—	—	—	—	—	—	79.6	83.9	88.1	88.9	90.5	91.8	92.2	+0.4
Taking cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	87.3	89.7	92.1	92.1	94.2	94.7	94.4	-0.3
Trying crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.2	95.0	94.4	94.6	+0.2
Taking crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	95.7	96.5	95.7	95.9	+0.2
Trying coke powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91.7	93.4	93.3	94.0	+0.7
Taking coke powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.0	95.0	94.8	94.8	0.0
Trying an amphetamine once or twice	*78.8*	—	*80.3*	—	*81.0*	78.9	74.4	75.7	76.8	77.0	77.0	79.4	80.0	82.3	84.1	84.2	85.3	85.7	+0.4
Taking one or two drinks nearly every day	*67.2*	—	*71.0*	—	*71.0*	70.5	69.5	71.9	71.7	73.6	75.4	75.9	71.8	74.9	76.4	79.0	76.6	77.9	+1.3
Taking four or five drinks every day	*89.2*	—	*88.1*	—	*88.5*	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	87.1	87.2	88.2	86.4	87.4	+1.0
Having five or more drinks once or twice every weekend	*55.0*	—	*53.4*	—	*51.3*	50.6	50.3	51.2	50.6	51.3	55.9	54.9	52.4	54.0	56.4	59.0	58.1	60.8	+2.7
Smoking one or more packs of cigarettes per day	*63.6*	—	*68.3*	—	*73.4*	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	76.4	74.4	75.3	74.0	76.2	+2.2
Approx N =	2488	—	2615	—	2716	2766	3120	3024	2722	2721	2688	2639	2815	2778	2400	2184	2160	2229	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.
[b]These figures have been adjusted to correct for a lack of comparability of question-context among administrations. (See text for discussion.)

- Even experimental use of ***marijuana*** was seen as a parentally disapproved activity by the great majority of the 1979 seniors (85%). Assuming that the students were generally correct about their parents' attitudes, these results clearly showed a substantial generational difference of opinion about this drug.

- Also likely to be perceived as rating high parental disapproval (92% disapproval) were ***occasional marijuana*** use, taking ***one or two drinks*** nearly every day, and ***pack-a-day cigarette smoking***.

- Slightly lower proportions of seniors (85%) felt their parents would disapprove of their having ***five or more drinks once or twice every weekend***. This happened to be exactly the same percentage as said that their parents would disapprove of simply experimenting with marijuana, showing a considerably more tolerant parental attitude toward alcohol than marijuana.

Perceptions of Friends' Attitudes

- Since the beginning of the study, a parallel set of questions has asked respondents to estimate their friends' attitudes about drug use (Table 25). These questions ask, "How do you think your close friends feel (or would feel) about you [taking the specified drug at the specified level]...?" The highest levels of peer disapproval in 1992 for experimenting with a drug are associated with trying ***cocaine*** (92%) and trying ***LSD*** (87%). Presumably, if ***heroin*** or ***PCP*** were on the list they too would receive very high peer disapproval.

- Even experimenting with ***marijuana*** now is viewed with disapproval by most seniors' friends (73%); and a large majority think their friends would disapprove if they smoked marijuana regularly (88%).

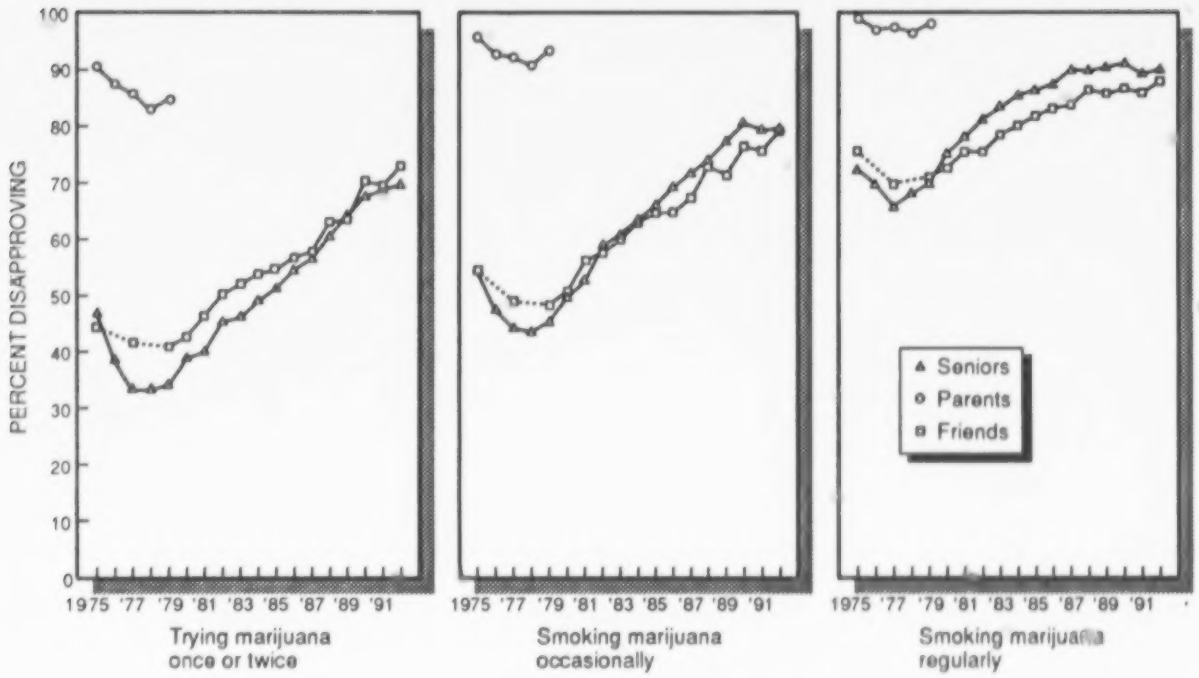
- Three-quarters of all seniors think they would face peer disapproval if they smoked a ***pack or more of cigarettes daily*** (76%).

- While ***heavy drinking on weekends*** is judged by more than half (61%) to be disapproved of by their friends (many of whom exhibit that behavior themselves), substantially more (78%) think consumption of ***one or two drinks daily*** would be disapproved. The great majority (87%) would face the disapproval of their friends if they engaged in ***heavy daily drinking***.

- In sum, peer norms among twelfth grade students differ considerably for the various drugs and for varying degrees of involvement with those drugs, but overall they tend to be quite conservative. The great majority of seniors have friendship circles which do not condone use of the ***illicit drugs other than marijuana***, and nearly three-

FIGURE 30a

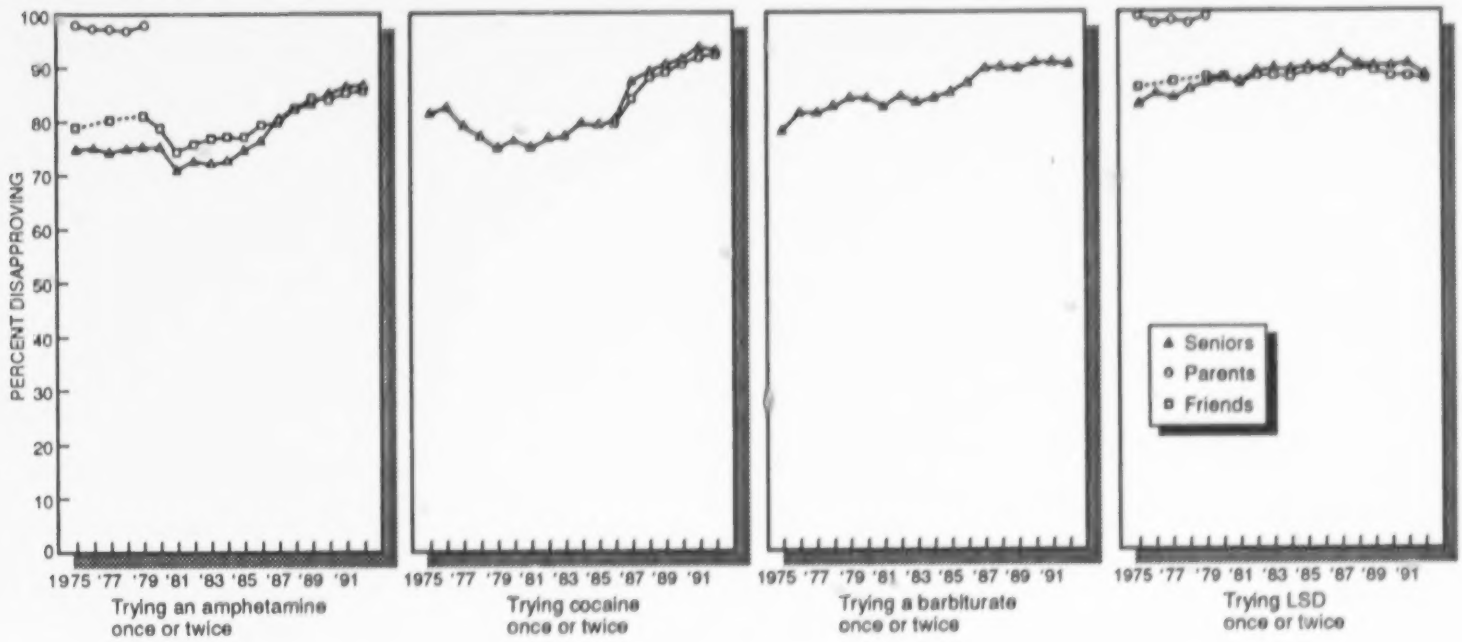
Trends in Disapproval of Illicit Drug Use
Twelfth Graders, Parents, and Peers



Note: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

FIGURE 30b

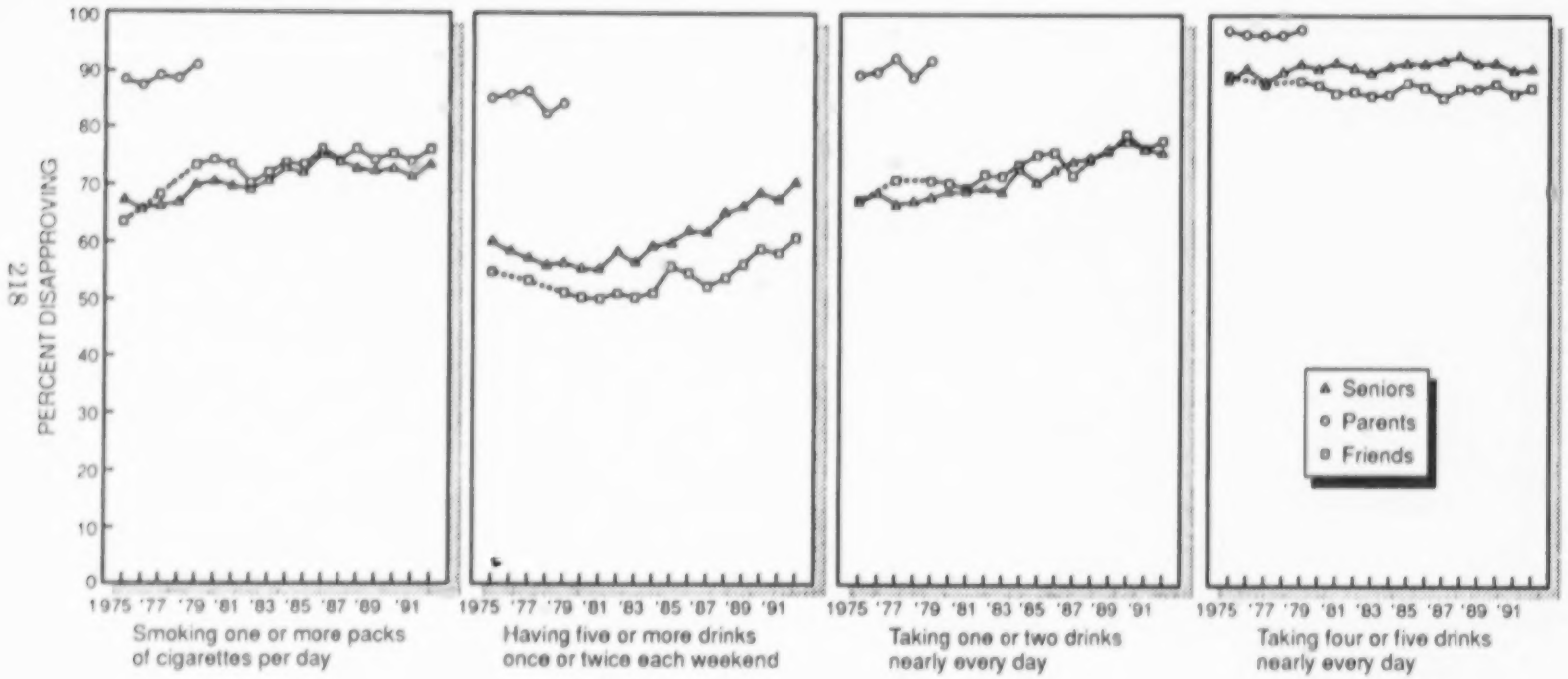
Trends in Disapproval of Illicit Drug Use
Twelfth Graders, Parents, and Peers



Note: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

FIGURE 31

Trends in Disapproval of Licit Drug Use
Twelfth Graders, Parents, and Peers



Note: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

quarters (73%) of them now believe their friends would disapprove of their even trying marijuana.

- While we did not have the space to include these questions in the eighth and tenth grade questionnaires (for which there are only two forms instead of six) there seems little doubt that they would report at least as restrictive peer norms as the twelfth graders, and perhaps more restrictive ones, based on the cross-grade comparisons of personal disapproval, given in Chapter 8.

A Comparison of the Attitudes of Parents, Peers, and Twelfth Graders

A comparison of seniors' perceptions of friends' disapproval with their perceptions of parents' disapproval, in the years for which comparison is possible, showed several interesting findings.

- First there was rather little variability from year to year in students' perceptions of their parents' attitudes. On any of the drug behaviors listed nearly *all* said their parents would disapprove. Nor was there much variability among the different drugs in perceived parental attitudes. However, peer norms varied much more from drug to drug. From these facts we may conclude that peer norms have a much greater chance of explaining variability in the respondent's own individual attitudes or use than parental norms, simply because the peer norms vary more. We wish to emphasize that this is quite different than saying that parental attitudes do not matter, or even that they matter less than peer attitudes.

- Despite less variability in parental attitudes, the *ordering* for disapproval of drug use behaviors was much the same as for peers. That is, among the illicit drugs asked about, the highest frequencies of perceived disapproval were for trying cocaine, while the lowest frequencies were for trying marijuana.

- A comparison with the seniors' own attitudes regarding drug use reveals that on the average they are much more in accord with their peers than with their parents (see Figures 30a, 30b, and 31). The differences between seniors' own disapproval ratings in 1979 and those attributed to their parents tended to be large, with parents seen as more conservative overall in relation to ***every drug***, licit or illicit. The largest difference occurred in the case of ***marijuana*** experimentation, where only 34% of seniors in 1979 said they disapproved vs. 85% who said their parents would disapprove. Despite the doubling in seniors' own disapproval rates (to 70% in 1992), it remains the most controversial of the illicit drug-using behaviors listed here.

Trends in Perceptions of Parents' and Friends' Attitudes

Several important changes in twelfth graders' perceptions of their peers' attitudes have been taking place. These shifts are presented graphically in Figures 30a, 30b, and 31. As can be seen in those figures, adjusted (dotted) trend lines have been introduced before 1980. This was done because we discovered that the deletion in 1980 of the questions about parents' attitudes–which up until then had been located immediately preceding the questions about friends' attitudes–removed what was judged to be an artifactual depression of the ratings of friends' attitudes, a phenomenon known as a question-context effect. This effect was particularly evident in the trend lines dealing with alcohol use, where otherwise smooth trend lines showed abrupt upward shifts in 1980. It appears that when questions about parents' attitudes were present, respondents tended to understate peer disapproval in order to emphasize the difference in attitudes between their parents and their peers. In the adjusted lines, we have attempted to correct for that artifactual depression in the 1975, 1977, and 1979 scores.[27] We think the adjusted trend lines give a more accurate picture of the change taking place. For some reason, the question-context effect seems to have more influence on the questions dealing with cigarettes and alcohol than on those dealing with illicit drugs.

- For each level of ***marijuana*** use–trying once or twice, occasional use, regular use–there had been a drop in perceived disapproval for both parents and friends up until 1977 or 1978. We know from our other findings that these perceptions correctly reflected actual shifts in the attitudes of their peer groups–that is, that acceptance of marijuana was in fact increasing among seniors (see Figures 30a and 30b). There is little reason to suppose such perceptions are less accurate in reflecting shifts in parents' attitudes. Therefore, we conclude that the social norms regarding marijuana use among adolescents and adults had been relaxing before 1979. However, consistent with the seniors' reports about their own attitudes, there has been a sharp reversal in peer norms (and very likely adult norms, as well) regarding all levels of marijuana use. Peer disapproval of marijuana use continued to increase significantly in 1992–in fact, more than personal disapproval.

- Until 1979 there had been relatively little change in either self-reported attitudes or perceived peer attitudes toward ***amphetamine*** use, but in 1981 both measures showed significant and parallel dips in disapproval as use rose sharply. Since 1981 disapproval has been rising, as use has

[27]The correction evolved as follows: We assumed that a more accurate estimate of the true change between 1979 and 1980 could be obtained by taking an average of the changes observed in the year prior and the year subsequent, rather than by taking the observed change (which we knew to contain the effect of a change in question context). We thus calculated an *(adjusted) 1979-1980 change score by taking an average of one-half the 1977-1979 change score (our best estimate of the 1978-1979 change) plus the 1980-1981 change score. This estimated change score was then subtracted from the observed change score for 1979-1980, the difference being our estimate of the amount by which peer disapproval of the behavior in question was being understated because of the context in which the questions occurred prior to 1980. The 1975, 1977, and 1979 observations were then adjusted upward by the amount of that correction factor.

declined, and peer disapproval is now at the highest level recorded in the study (86%).

- Peer disapproval of ***LSD*** has been high and relatively stable for some years.

- While perceived attitudes of friends was not asked for ***cocaine*** (until 1986), or for ***barbiturates***, it seems likely that such perceptions moved in parallel to the seniors' own attitudes, since such parallel movement has been observed for virtually all other drugs (see Figures 30a and 30b.) This would suggest that disapproval has risen gradually but steadily for ***barbiturate*** use since 1975.

- Regarding experimenting with ***cocaine***, seniors' own disapproval dropped from 1975 to 1979, but then rose very gradually through 1992. Questions on perceived attitudes of friends for experimental and occasional use of cocaine were added in 1986. Between 1986 and 1992 a sharp increase in peer disapproval of experimental or occasional cocaine use is shown, with the proportion saying that their close friends would disapprove of their experimenting with cocaine rising from 80% in 1986 to 92% in 1992. This corresponds to the period in which an even larger increase in perceived risk occurred, and we hypothesize that the change in the perceived dangers of a drug contribute to changes in the acceptability of using that drug.[28]

- Regarding ***regular cigarette smoking***, the proportion of seniors saying that their friends would disapprove of them smoking a pack-a-day or more rose from 64% (adjusted) in 1975 to 74% in 1980. Beyond 1980, however, perceived peer disapproval has fluctuated by only a few percentage points, and it remains at 76% in 1992.

- For alcohol the perceived peer norms for ***weekend binge drinking*** moved pretty much in parallel with seniors' statements about their personal disapproval through 1985. This meant a slight decline in disapproval in the mid-1970s followed by a period of little change through 1984. Since then some divergence appears to have occurred, with seniors' reports of their own attitudes becoming less tolerant as perceived peer norms took longer to begin an upward trend. This would suggest that there may be some "collective ignorance" of the extent to which peers disapprove of this activity.

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[28]Johnston, L.D. (1991) Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, N.J.: Lawrence Erlbaum.

- ***Heavy daily drinking*** is seen by the great majority (87% in 1992) as disapproved by peers, with little systematic change over more than a decade. Taking one or two drinks nearly every day has seen some growth in peer disapproval since 1987.

FRIENDS' USE OF DRUGS

It is generally acknowledged that much of youthful drug use is initiated through a peer social-learning process; and research has shown a high correlation between an individual's illicit drug use and that of his or her friends. Such a correlation can, and probably does, reflect several different causal patterns: (a) a person with friends who use a drug will be more likely to try the drug; (b) conversely, the individual who is already using a drug will be likely to introduce friends to the experience; and (c) one who is already a user is more likely to establish friendships with others who also are users.

Given the potential importance of exposure to drug use by others, we felt it would be useful to monitor students' association with others taking drugs, as well as their perceptions about the extent to which their friends use drugs. Two sets of questions, each covering all or nearly all of the categories of drug use treated in this report, asked seniors to indicate (a) how often during the past twelve months they were around people taking each of the drugs to get high or for "kicks," and (b) what proportion of their own friends use each of the drugs. (The questions dealing with friends' use are shown in Table 27. The data dealing with direct exposure to use may be found in Table 28.) Obviously, responses to these two questions are highly correlated with the respondents' own drug use; thus, for example, seniors who have recently used marijuana are much more likely to report that they have been around others getting high on marijuana, and that most of their friends use it. The questions on proportions of friends using the various drugs also were added to the questionnaires used with eighth and tenth graders and the results for those age groups will be discussed in a separate section below.

Exposure to Drug Use by Friends and Others: Twelfth Graders

- A comparison of the aggregated responses about friends' use and about being around people in the last twelve months who were using various drugs to get high reveals a high degree of correspondence between these two indicators of exposure. (These two questions appear on separate forms of the questionnaire.) For each drug, the proportion of respondents saying "none" of their friends use it is fairly close to the proportion who say that during the last twelve months they have not been around anyone who was using that drug to get high. Similarly, the proportion saying they are "often" around people getting high on a given drug is roughly the same as the proportion reporting that "most" or "all" of their friends use that drug.

- As would be expected, reports of exposure and friends' use closely parallel the figures on seniors' own use (compare Figures 2 and 32). It thus comes as no surprise that the highest levels of exposure

TABLE 26

Trends in Friends' Use of Drugs as Estimated by Eighth, Tenth, and Twelfth Graders, 1991–1992

Entries are percentages

Q. *How many of your friends would you estimate...*	8th Grade			10th Grade			12th Grade		
	1991	1992	'91–92 change	1991	1992	'91–92 change	1991	1992	'91–92 change
Smoke marijuana									
% saying none	78.1	74.9	–3.2ss	51.7	54.1	+2.4	34.2	36.9	+2.7
% saying most or all	3.3	4.1	+0.8s	7.9	8.0	+0.1	10.0	10.3	+0.3
Use inhalants									
% saying none	79.5	76.9	–2.6s	82.7	82.2	–0.5	80.8	77.8	–3.0s
% saying most or all	2.4	2.9	+0.5	1.4	1.5	+0.1	0.7	1.8	+1.1ss
Take cocaine powder									
% saying none	91.6	89.3	–2.3sss	85.3	85.9	+0.6	80.2	80.3	+0.1
% saying most or all	0.9	1.1	+0.2	0.8	0.8	0.0	1.8	2.0	+0.2
Take crack									
% saying none	91.4	89.1	–2.3sss	86.8	86.8	0.0	82.4	82.2	–0.2
% saying most or all	0.9	1.0	+0.1	0.8	0.7	–0.1	0.6	0.7	+0.1
Take heroin									
% saying none	93.9	92.7	–1.2ss	92.2	91.9	–0.3	88.6	86.8	–1.8
% saying most or all	0.7	0.9	+0.2	0.6	0.6	0.0	0.4	0.7	+0.3
Drink alcoholic beverages									
% saying none	27.9	23.6	–4.3ss	7.1	8.7	+1.6ss	8.8	9.5	+0.7
% saying most or all	21.0	23.7	+2.7s	49.6	48.2	–1.4	58.6	56.9	–1.7
Get drunk at least once a week									
% saying none	57.2	52.0	–5.2ss	24.9	27.4	+2.5s	20.2	20.1	–0.1
% saying most or all	7.2	8.4	+1.2s	19.3	18.6	–0.7	29.7	28.6	–1.1
Smoke cigarettes									
% saying none	32.3	27.6	–4.7ss	18.8	18.0	–0.8	14.3	15.6	+1.3
% saying most or all	11.8	14.4	+2.6s	18.2	18.7	+0.5	21.8	21.4	–0.4
Use smokeless tobacco									
% saying none	63.5	62.5	–1.0	46.9	46.9	0.0	—	—	—
% saying most or all	3.8	4.2	+0.4	7.5	7.3	–0.2	—	—	—
Approx. N=	15975	16606		14258	14008		2339	2373	

NOTE: Level of significance of difference between the two years: s = 05, ss =.01, sss =.001.
'—' indicates data not available.

TABLE 27

Trends in Proportion of Friends Using Drugs as Estimated by Twelfth Graders

Entries are percentages

Q *How many of your friends would you estimate*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91-'92 change
Take any illicit drug[a]																			
% saying none	14.2	15.4	13.1	12.5	11.0	12.5	14.6	13.7	17.4	19.0	17.6	17.8	18.3	20.9	23.1	29.0	30.9	32.7	+1.8
% saying most or all	31.9	31.7	33.2	36.3	37.0	32.5	29.8	26.5	23.8	20.9	22.7	21.5	18.6	15.8	15.7	13.6	11.7	12.0	+0.3
Take any illicit drug[a] other than marijuana																			
% saying none	33.3	44.5	42.5	43.6	38.7	37.6	36.7	35.3	38.8	38.7	38.2	36.7	37.6	43.5	43.8	49.9	53.7	52.9	-0.8
% saying most or all	10.6	8.9	7.7	8.5	10.4	11.1	11.9	10.9	11.0	10.3	10.4	10.3	9.2	6.9	7.7	5.1	4.6	5.3	+0.7
Smoke marijuana																			
% saying none	17.0	17.1	14.1	13.9	12.4	13.6	17.0	15.6	19.7	22.3	20.5	20.8	21.6	24.7	27.5	31.7	34.2	36.9	+2.7
% saying most or all	30.3	30.6	32.3	35.3	35.5	31.3	27.7	23.8	21.7	18.3	19.8	18.2	15.8	13.6	13.4	10.1	10.0	10.3	+0.3
Use inhalants																			
% saying none	75.7	81.4	81.1	80.0	80.9	82.2	83.5	81.6	83.9	80.7	78.8	77.6	75.3	79.2	77.9	80.0	80.8	77.8	-3.0s
% saying most or all	1.1	1.1	1.0	1.1	1.1	1.2	0.9	1.3	1.1	1.1	1.5	2.0	1.9	1.2	1.9	1.0	0.7	1.8	+1.1ss
Use nitrites																			
% saying none	—	—	—	—	78.4	81.0	82.6	82.5	85.5	85.0	84.4	82.0	81.7	86.4	86.7	89.6	91.1	91.0	-0.1
% saying most or all	—	—	—	—	1.9	1.3	1.2	0.9	0.7	1.2	1.0	1.2	1.3	0.7	0.9	0.6	0.4	0.7	+0.3
Take LSD																			
% saying none	63.5	69.4	68.1	70.1	71.1	71.9	71.5	72.2	76.0	76.1	75.6	75.5	74.7	75.9	74.8	75.0	76.6	71.9	-4.7ss
% saying most or all	2.7	2.8	3.0	2.0	1.9	1.8	2.2	2.4	1.4	2.0	1.5	1.8	1.6	1.5	2.4	1.9	1.7	2.4	+0.7
Take other psychedelics																			
% saying none	58.8	69.7	68.6	70.8	71.8	71.8	73.7	74.4	77.9	78.7	78.0	77.7	78.3	82.2	81.9	84.1	84.9	83.0	-1.9
% saying most or all	4.7	3.0	2.8	2.0	2.2	2.2	2.1	1.9	1.6	1.9	1.4	1.3	1.2	0.9	1.4	1.0	0.8	1.0	+0.2
Take PCP																			
% saying none	—	—	—	—	72.2	77.8	82.8	82.7	85.8	85.8	84.1	83.9	84.5	86.5	85.3	87.0	88.0	87.3	-0.7
% saying most or all	—	—	—	—	1.7	1.6	0.9	0.9	1.1	1.1	1.2	1.2	1.1	0.8	1.2	0.5	0.5	0.9	+0.4
Take MDMA (ecstasy)																			
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.6	88.1	89.3	+1.2
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.2	1.7	2.1	+0.4
Take cocaine																			
% saying none	66.4	71.2	69.9	66.8	61.1	58.4	59.9	59.3	62.4	61.1	56.2	54.4	56.3	62.3	62.6	68.8	73.2	73.7	+0.5
% saying most or all	3.4	3.2	3.6	4.0	6.0	6.1	6.3	4.9	5.1	5.1	5.8	6.2	5.1	3.4	3.7	2.1	1.5	1.5	0.0
Take crack																			
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	72.6	74.6	73.9	80.8	82.4	82.2	-0.2
% saying most or all		—	—	—	—	—	—	—	—	—	—	—	2.2	1.1	2.1	0.6	0.6	0.7	+0.1
Take cocaine powder																			
% saying none															74.7	75.4	80.2	80.3	+0.1
% saying most or all	—	—	—	—	—	—	—	—	—	—	—				2.3	2.5	1.8	2.0	+0.2

(Table continued on next page)

TABLE 27 (cont.)

Trends in Proportion of Friends Using Drugs as Estimated by Twelfth Graders

Entries are percentages

Q *How many of your friends would you estimate...*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Take heroin																			
% saying none	84.8	86.4	87.1	85.7	87.1	87.0	87.6	86.8	88.0	87.0	85.5	84.7	86.1	87.6	86.9	88.6	88.6	86.8	-1.8
% saying most or all	0.7	0.8	0.7	0.9	0.8	1.0	0.5	0.7	0.8	0.8	0.9	1.1	0.9	0.7	1.1	0.4	0.4	0.7	+0.3
Take other narcotics																			
% saying none	71.2	75.9	76.3	76.8	76.9	77.6	76.9	76.1	79.2	78.6	77.2	78.2	76.8	80.8	80.8	82.8	86.3	85.1	-1.2
% saying most or all	2.1	2.2	1.7	1.4	1.5	1.7	1.5	1.4	1.4	1.6	1.4	1.8	1.4	1.2	1.4	0.9	0.5	1.1	+0.6
Take amphetamines																			
% saying none	49.0	57.8	58.7	59.3	59.3	56.1	51.2	49.4	53.9	54.9	56.7	58.2	60.5	66.6	66.5	71.3	75.7	75.7	0.0
% saying most or all	5.9	5.6	4.1	4.7	4.3	4.8	6.4	5.4	5.1	4.5	3.4	3.4	2.6	1.9	2.6	1.9	1.3	1.3	0.0
Take crystal meth. (ice)																			
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.9	89.8	91.1	+1.3
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	1.0	1.5	+0.5
Take barbiturates																			
% saying none	55.0	63.7	65.3	67.5	69.3	69.5	68.9	68.7	71.7	73.4	72.9	74.4	75.7	80.3	79.7	82.6	85.2	83.6	-1.6
% saying most or all	4.3	3.5	3.0	2.3	2.1	2.6	2.1	1.8	1.7	1.7	1.6	1.4	1.1	1.1	1.4	0.6	0.5	0.6	+0.1
Take quaaludes																			
% saying none	68.3	73.0	71.7	73.0	72.3	67.5	65.0	64.5	70.3	73.9	74.0	76.5	78.0	82.9	83.4	85.7	88.0	86.9	-1.1
% saying most or all	3.0	1.8	2.9	2.2	2.8	3.6	3.6	2.6	2.6	1.7	1.3	1.6	1.0	1.0	1.3	0.8	0.5	0.8	+0.3
Take tranquilizers																			
% saying none	54.4	63.7	62.2	65.2	68.0	70.3	70.5	70.1	73.3	73.4	74.2	75.8	76.7	80.1	82.0	85.1	86.5	85.4	-1.1
% saying most or all	3.5	3.1	2.7	1.8	2.0	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	0.7	1.6	0.5	0.4	0.7	+0.3
Drink alcoholic beverages																			
% saying none	3.3	4.9	5.6	5.1	4.6	3.9	5.3	4.3	4.5	5.4	5.4	4.4	4.6	4.3	4.9	8.0	8.8	9.5	+0.7
% saying most or all	68.4	64.7	66.2	68.9	68.5	68.9	67.7	69.7	69.0	66.6	66.0	68.0	71.8	68.1	67.1	60.5	58.6	56.9	-1.7
Get drunk at least once a week																			
% saying none	17.6	19.3	19.0	18.0	16.7	16.9	18.2	16.9	16.1	18.5	17.5	15.3	14.4	15.6	17.2	20.8	20.2	20.1	-0.1
% saying most or all	30.1	26.6	27.6	30.2	32.0	30.1	29.4	29.9	31.0	29.6	29.9	31.8	31.3	29.6	31.1	27.5	29.7	28.6	-1.1
Smoke cigarettes																			
% saying none	4.8	6.3	6.3	6.9	7.9	9.4	11.6	11.7	13.0	14.0	13.0	12.2	11.7	12.3	13.5	15.1	14.3	15.6	+1.3
% saying most or all	41.5	36.7	33.9	32.2	28.6	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	20.2	23.1	21.4	21.8	21.4	-0.4
Take steroids																			
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74.1	75.3	78.5	+3.2s
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.0	1.7	+0.7
Approx. N =	2640	2697	2788	3247	2933	2987	3307	3303	3095	2945	2971	2798	2948	2961	2587	2361	2339	2373	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

[a]These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all of the drugs listed except MDMA (ecstasy), cocaine powder, crystal meth. (ice), alcohol, cigarettes and steroids. PCP and the nitrites were not included in 1975 through 1978. Crack was not included in 1975 through 1986.

TABLE 28

Trends in Twelfth Graders' Exposure to Drug Use

Entries are percentages

Q *During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Any illicit drug[a]																			
% saying not at all	—	17.4	16.5	15.1	15.0	15.7	17.3	18.6	20.6	22.1	22.3	24.5	26.1	28.7	31.4	32.4	35.8	38.7	+2.9
% saying often	—	34.8	39.0	40.7	40.4	36.3	36.1	31.4	29.8	28.3	27.2	26.3	23.3	20.8	22.0	20.7	18.2	18.0	-0.2
Any illicit drug[a] except marijuana																			
% saying not at all	—	44.9	44.2	44.7	41.7	41.5	37.4	37.5	40.6	40.2	40.7	44.7	48.3	52.2	52.9	54.6	60.0	58.4	-1.6
% saying often	—	11.8	13.5	12.1	13.7	14.1	17.1	16.6	14.2	14.6	12.9	12.1	10.2	9.6	10.7	9.2	7.9	7.5	-0.4
Marijuana																			
% saying not at all	—	20.5	19.0	17.3	17.0	18.0	19.8	22.1	23.8	25.6	26.5	28.0	29.6	33.0	35.2	36.6	40.4	43.2	+2.8
% saying often	—	32.5	37.0	39.0	38.9	33.8	33.1	28.0	26.1	24.8	24.2	24.0	20.6	17.9	19.5	17.8	16.0	15.6	-0.4
LSD																			
% saying not at all	—	78.8	80.0	81.9	81.9	82.8	82.6	83.9	86.2	87.5	86.8	86.9	87.1	86.6	85.0	85.1	84.3	82.2	-2.1
% saying often	—	2.2	2.0	1.8	2.0	1.4	2.0	1.9	1.4	1.5	1.3	1.6	1.8	1.6	2.2	2.6	2.9	3.0	+0.1
Other psychedelics																			
% saying not at all	—	76.5	76.7	76.7	77.6	79.6	82.4	83.2	86.9	87.3	87.5	88.2	90.0	91.0	91.2	90.6	90.6	90.3	-0.3
% saying often	—	3.1	3.2	2.9	2.2	2.2	2.0	2.6	1.1	1.7	1.4	1.5	1.2	1.1	1.3	1.2	1.3	1.1	-0.2
Cocaine																			
% saying not at all	—	77.0	73.4	69.8	64.0	62.3	63.7	65.1	66.7	64.4	61.7	62.6	65.1	69.8	69.8	72.3	78.7	80.2	+1.5
% saying often	—	3.0	3.7	4.6	6.8	5.9	6.6	6.6	5.2	6.7	7.1	7.8	5.9	5.1	5.4	4.7	3.4	2.7	-0.7
Heroin																			
% saying not at all	—	91.4	90.3	91.8	92.4	92.6	93.4	92.9	94.9	94.0	94.5	94.0	94.2	94.3	93.5	94.6	94.9	94.6	-0.3
% saying often	—	0.8	1.1	0.9	0.7	0.4	0.6	1.0	0.7	1.1	0.5	1.0	0.9	0.8	1.0	0.5	0.9	0.7	-0.2
Other narcotics																			
% saying not at all	—	81.9	81.3	81.8	82.0	80.4	82.5	81.5	82.7	82.0	81.6	84.4	85.6	85.2	86.2	85.8	88.7	88.9	+0.2
% saying often	—	1.8	2.4	2.0	1.7	1.7	1.7	2.4	2.2	2.0	1.8	2.1	1.7	1.7	1.7	1.6	1.4	1.3	-0.1
Amphetamines																			
% saying not at all	—	59.6	60.3	60.9	58.1	59.2	50.5	49.8	53.9	55.0	59.0	63.5	68.3	72.1	72.6	71.7	76.4	75.5	-0.9
% saying often	—	6.8	7.9	6.7	7.4	8.3	12.1	12.3	10.1	9.0	6.5	5.8	4.5	4.1	4.7	4.1	3.1	3.0	-0.1
Barbiturates																			
% saying not at all	—	69.0	70.0	73.5	73.6	74.8	74.1	74.3	77.5	78.8	81.1	84.2	86.9	87.6	88.2	86.7	90.0	89.8	-0.2
% saying often	—	4.5	5.0	3.4	3.3	3.4	4.0	4.3	3.0	2.7	1.7	2.1	1.5	1.4	1.7	1.7	1.2	1.1	-0.1
Tranquilizers																			
% saying not at all	—	67.7	66.0	67.5	67.5	70.9	71.0	73.4	76.5	76.9	76.6	80.4	81.6	81.8	84.9	83.7	85.8	87.3	+1.5
% saying often	—	5.5	6.3	4.9	4.3	3.2	4.2	3.5	2.9	2.9	2.2	2.5	2.6	2.2	2.1	1.9	1.4	1.9	+0.5
Alcoholic beverages																			
% saying not at all	—	6.0	5.6	5.5	5.2	5.3	6.0	6.0	6.0	6.0	6.0	5.9	6.1	6.9	7.7	6.4	8.3	9.4	+1.1
% saying often	—	57.1	60.8	60.8	61.2	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	56.4	55.5	56.1	54.5	53.1	-1.4
Approx N =	—	2950	3075	3682	3253	3259	3608	3645	3334	3238	3252	3078	3296	3300	2795	2556	2525	2630	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. "—" indicates data not available.

[a]These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all drugs listed except alcohol.

involve ***alcohol***; a majority (53%) say they are "often" around people using it to get high. What *may* come as a surprise is that fully 29% of all seniors say that most or all of their friends go so far as to ***get drunk*** at least once a week. (This *is* consistent, however, with the fact that 28% said they personally had taken five or more drinks in a row at least once during the prior two weeks.)

- Students are exposed next most frequently to ***marijuana***. More than half of the twelfth graders (57%) report some exposure during the year. Some 16% are "often" around people using it to get high, and another 19% are exposed "occasionally." But only one in ten (10%) now say that most or all of their friends smoke marijuana.

- ***Amphetamines*** are next with 25% of seniors reporting some exposure to use in the prior year, and 24% saying they have friends who use.

- Of all seniors, 20% have been around someone using ***cocaine*** to get high over the past year, and a quarter (26%) say they have some friends who use it.

- For the remaining illicit drugs there are far lower rates, with any exposure to use in the past year ranging from 18% for ***LSD*** down to 5% for ***heroin***.

- The majority of seniors (58%) report no exposure to ***illicit drugs other than marijuana*** during the prior year, but only a little over a third (39%) report no exposure to ***any illicit drug*** during the year. Thus, exposure to ***marijuana*** use, at least, is still widespread, but exposure to the use of ***drugs other than marijuana*** occurs for "only" 42%.

- Regarding ***cigarette smoking***, one in every five seniors (21%) reports that most or all of his or her friends smoke, and 84% have at least some friends who smoke.

Friends' Use of Drugs: Eighth and Tenth Graders

While the questions about exposure to use were not included in the questionnaires for grades 8 and 10, the questions regarding the proportion of their friends who use each drug were included.

- As would be expected, eighth and tenth grade students are considerably less likely to have friends who use the various drugs than twelfth graders (Table 26). For example, for ***cocaine powder***, ***crack***, and ***heroin*** fewer than 11% of the eighth graders and fewer than 14% of the tenth graders have any friends who use.

FIGURE 32

Proportion of Friends Using Each Drug as Estimated by Eighth, Tenth, and Twelfth Graders, 1992

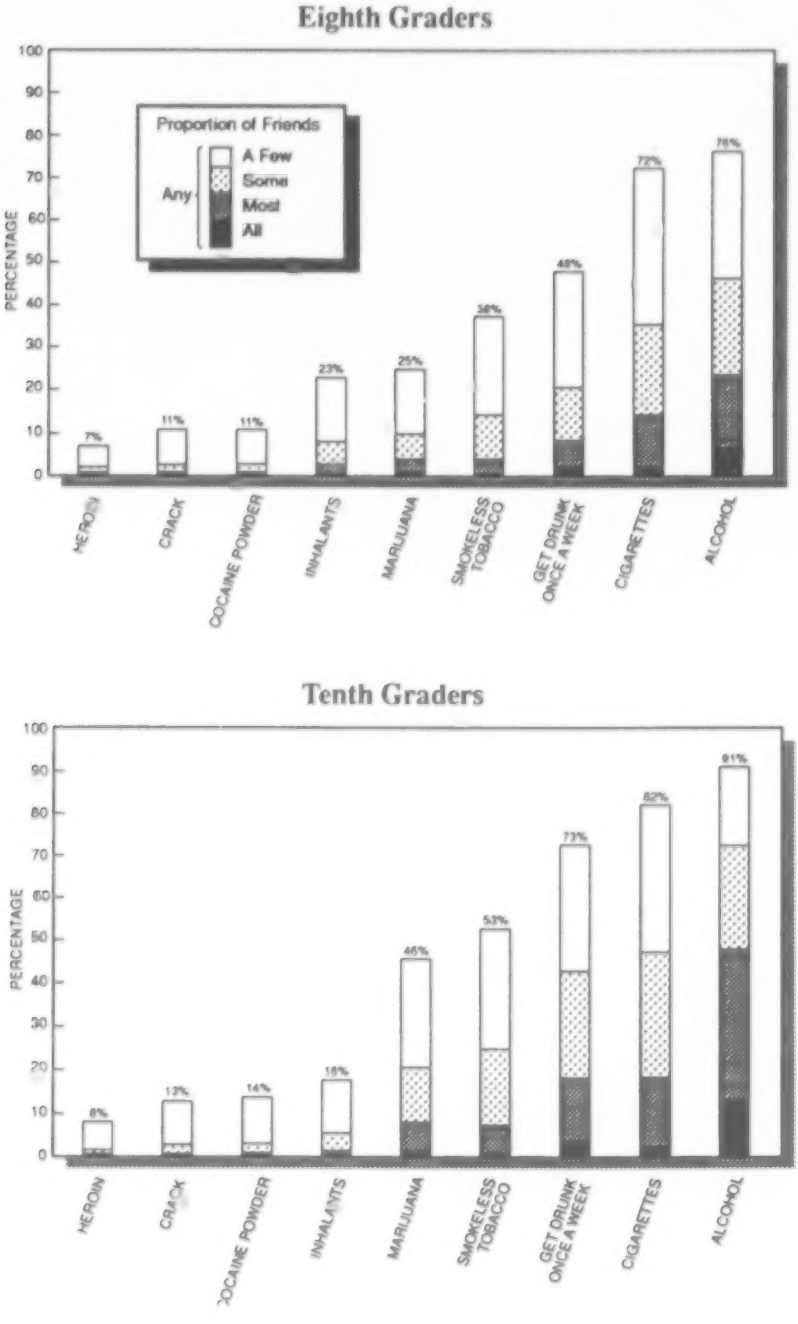
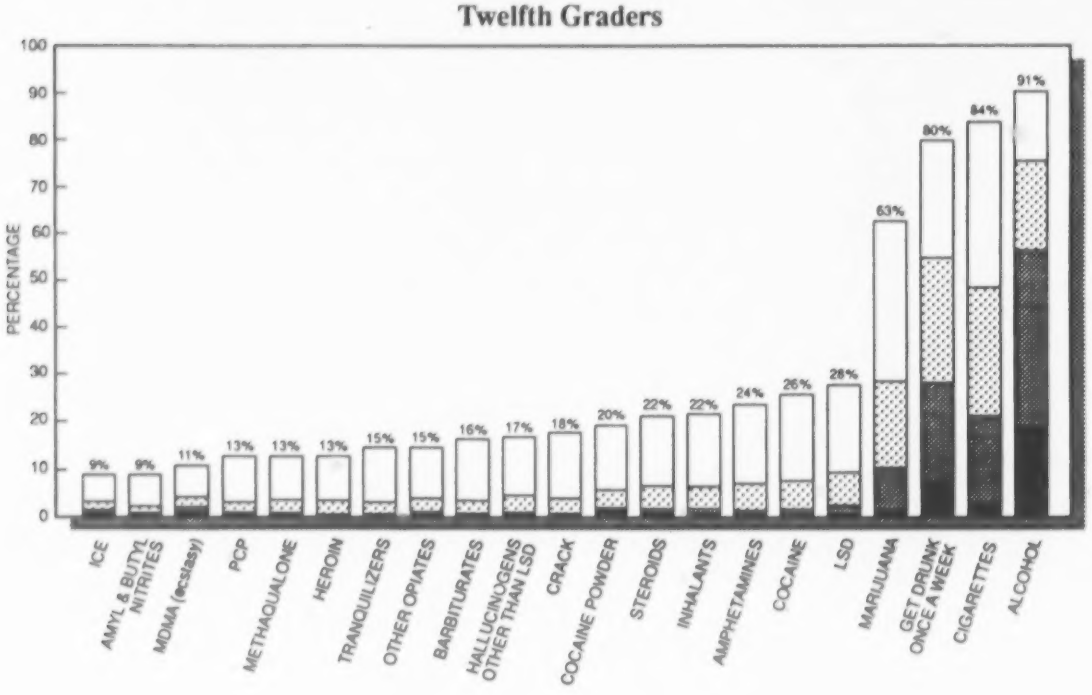


FIGURE 32 (cont.)

Proportion of Friends Using Each Drug as Estimated by Eighth, Tenth, and Twelfth Graders, 1992



- For ***marijuana***, however, a quarter (25%) of the eighth graders and half (46%) of the tenth graders have friends who use.

- Almost as many eighth graders (23%) have friends who use ***inhalants***, but many fewer tenth graders have friends who use inhalants (18%) than use marijuana (46%).

- Exposure to ***alcohol*** use through friends is much more widespread, with three-quarters (76%) of the eighth graders and 91% of the tenth graders having friends who use. In fact, one-fifth (24%) of the eighth graders and one-half (48%) of the tenth graders say that most or all of their friends ***drink***, and the proportions saying that most or all of their friends ***get drunk*** at least once a week is one in twelve (8%) and one in five (19%), respectively.

- Exposure to ***cigarette smoking*** through friends also is very high for these children, with nearly three-quarters (72%) of the eighth graders and more than 80% of the tenth graders saying they have some friends who smoke.

TRENDS IN FRIENDS' USE OF DRUGS

Trends in Exposure to Drug Use by Friends and Others: Twelfth Graders

- During the two-year interval from 1976 to 1978, seniors' reports of exposure to ***marijuana*** use increased in just about the same proportion as percentages of actual monthly use. In 1979 both exposure to use and actual use stabilized, and since 1979 both have been dropping. The proportion saying they are often around people using marijuana decreased by more than half, from 39% in 1979 to 16% in 1992.

- ***Cocaine*** showed a consistent increase from 1976 to 1979 in the proportion of seniors exposed to users, as self-reported use rose. From 1979 to 1984 there was little change in exposure to use coinciding with a period of stability in self-reported use; and in 1985 and 1986 there was some increase in reported exposure to use. These were also the peak years in self-reported use. Since 1986 the seniors' exposure to cocaine use has been dropping steadily, and the proportion saying they have any friends who use dropped from 46% in 1986 to 26% in 1992. In fact, in the two year interval from 1989 to 1992, this statistic dropped eleven percentage points.

- ***Inhalant*** use by friends has shown some increase since 1981, including a significant increase in reported friends' use in 1992. Most of the increase in friends' use occurred in the West region, which was the only region that showed an increase in self-reported use during the past

year. (The question on being around people using inhalants to get high is not asked.)

- From 1979 to 1989 there was a gradual decrease in exposure to the use of ***psychedelics other than LSD*** which coincided with a continued decline in the self-reported use of this class of drugs. Since 1989, friends' use has remained fairly stable.

- Exposure to ***tranquilizer*** use has generally been declining gradually since 1976, as has actual use.

- There was also a gradual decrease in exposure to ***barbiturates*** and ***LSD***, from 1975 through 1980. Then exposure to the use of both of these drugs remained level for two years, as did the usage figures. After that, barbiturates generally have shown a continuing decline in both use and exposure to use. Friends' use of LSD reached a low point by about 1985 and remained stable through 1991. In 1992, there was a significant increase in the proportion of twelfth graders who said they had some friend(s) who used, while the proportion who said they were exposed to use grew more gradually from 1988 to 1992.

- Trend data are available only since 1979 on friends' use of ***PCP*** or the ***nitrites***. For both drugs, exposure to friends' use dropped significantly between 1979 and 1983. Only half as many twelfth graders in 1983 (14%) said any of their friends used PCP compared with twelfth graders in 1979 (28%). The corresponding drop for nitrites was from 22% to 15%. Since 1983 there has been some further decrease in exposure for both drugs, though it has been quite modest in the case of PCP.

- The proportion having any friends who used ***amphetamines*** rose from 41% to 51% between 1979 and 1982–paralleling the sharp increase in reported use over that period. The proportion saying they were around people using amphetamines "to get high or for kicks" also jumped substantially between 1980 and 1982 (by 9% to 50%).[29] It then fell continually by a full 26 percentage points between 1982 and 1992 as self-reported use has declined substantially.

- Between 1978 and 1981 ***methaqualone*** use rose, as did the proportion of seniors saying some of their friends used it. A decline in both use and friends' use started in 1982, and by 1992 the proportion of seniors saying they had any friends who use quaaludes fell by nearly two-thirds (down from 35% to 13% between 1981 and 1992). Usage rates showed a similar decline.

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[29]This finding was important, since it indicated that a substantial part of the increase observed in self-reported amphetamine use was due to things other than simply an increase in the use of over-the-counter diet pills or stay-awake pills, which presumably are not used to get high. Obviously, more young people were using stimulants for recreational purposes. There still remained the question, of course, of whether the active ingredients in those stimulants really were amphetamines.

- The proportion saying that "most or all" of their friends smoke ***cigarettes*** dropped steadily and substantially between 1976 and 1981, from 37% to 22%. During this period self-reported use dropped markedly, and more seniors perceived their friends as disapproving regular smoking. After 1981, friends' use and self-reported use remained relatively stable; in fact, in 1992 the friends' use rate is close to the 1981 rate. In 1977, the peak year for actual use, 34% said most or all of their friends smoked; in 1981, 22%, and in 1992, 21%.

- The proportion saying most or all of their friends ***get drunk*** at least once a week had been increasing steadily between 1976 and 1979, from 27% to 32%, in a period in which the prevalence of self-reported, occasional heavy drinking was rising by about the same amount. After that, there was little change in either measure for about five years. Beginning in 1984 and 1985, self-reports by seniors of their own heavy drinking began to decline; but reported heavy drinking by friends has shown a more modest decline. What remains the most impressive fact here, is that almost one-third of all high school seniors (29% in 1992) say that most or all of their friends get drunk at least once a week. And only one in five (20%) say that none of their friends get drunk that often.

Implications for Validity of Self-Reported Usage Questions

We have noted a high degree of correspondence in the aggregate level data presented in this report among seniors' self-reports of their *own* drug use, their reports concerning *friends'* use, and their own *exposure* to use. Drug-to-drug comparisons in any given year across these three types of measures tend to be highly parallel, as are the changes from year to year.[30] We take this consistency as additional evidence for the validity of the self-report data, and of trends in the self-report data, since there should be less reason to distort answers on use by unidentified friends, or general exposure to use, than to distort the reporting of one's own use.

TRENDS IN FRIENDS' USE: EIGHTH AND TENTH GRADERS

Trend data for grades 8 and 10 are available only since 1991, as presented in Table 26. In general, they show trends which are highly consistent with the trends in self-reported use at these grade levels. Note that these questions are asked of all respondents each year in grades 8 and 10, so the sample sizes are very large.

- Eighth graders show an increasing proportion of their friends using ***marijuana***, ***inhalants***, ***cocaine powder***, ***crack***, and to a lesser

[30]Those minor instances of noncorrespondence may well result from the larger sampling errors in our estimates of these environmental variables, which are measured on a sample size one-fifth or one-sixth the size of the self-reported usage measures.

degree, ***heroin***. All of these changes are statistically significant (see Table 26). None of these changes is replicated in the data from tenth or twelfth graders, with the single exception of a significant increase of friends' use of ***inhalants*** among twelfth grade students.

- Eighth graders also report an increasing proportion of their friends ***drinking***, ***getting drunk***, and ***smoking cigarettes***, whereas tenth graders show a decline in the proportion of friends drinking or getting drunk, and no significant change in the proportion smoking.

- It should be noted that the "bad news" stories for eighth graders which come out of the self-report data and the friends' use data are not from independent sources. If a sampling anomaly were behind the change on one of these types of measures, it very likely would influence the other, as well; and such an anomaly cannot be ruled out when only one year of trend data is available.

PERCEIVED AVAILABILITY OF DRUGS

One set of questions asks respondents to estimate how difficult it would be to obtain each of a number of different drugs if they wanted them. The answers range across five categories from "probably impossible" to "very easy."[31] While no systematic effort has been undertaken to assess directly the validity of these measures, it must be said that they do have a rather high level of face validity--particularly if it is the subjective reality of "perceived availability" which is purported to be measured. It also seems quite reasonable to us to assume that perceived availability tracks actual availability to some extent.

Perceived Availability

- There are substantial differences in the reported availability of the various drugs. In general, the more widely used drugs are reported to be available by the highest proportion of the age group, as would be expected (see Table 29).

- The availability of ***alcohol*** and ***cigarettes*** was not even asked of seniors since we assume that these drugs are almost universally available to them. However, they are asked of the eighth and tenth graders, and even at these grade levels the availability is extremely high. ***Cigarettes*** are seen as most available: 71% of eighth graders and 88% of tenth graders think they would be fairly or very easy to get.

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[31]In the questionnaire used with eighth and tenth graders, an additional answer category of "can't say, drug unfamiliar" is offered; respondents who chose this answer are included in the calculation of percentages.. Generally less than 20% of the respondents selected this answer.

TABLE 29

Trends in Perceived Availability of Drugs Eighth, Tenth, and Twelfth Graders, 1991–1992

Q *How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?*	Percentage saying "fairly easy" or "very easy" to get[a]								
	8th Grade			10th Grade			12th Grade		
	1991	1992	'91–92 change	1991	1992	'91–92 change	1991	1992	'91–92 change
Marijuana	26.2	29.7	+3.5ss	54.4	52.9	–1.5	83.3	82.7	–0.6
Crack	14.2	17.6	+3.4ss	26.5	26.7	+0.2	39.9	43.5	+3.6s
Cocaine powder	14.5	17.0	+2.5ss	26.8	26.5	–0.3	46.0	48.0	+2.0
Cigarettes	72.9	71.1	–1.8	88.3	87.8	–0.5	—	—	—
Alcohol	64.7	64.5	–0.2	82.5	82.8	+0.3	—	—	—
Steroids	14.5	15.1	+0.6	26.2	25.0	–1.2	54.1	51.7	–2.4
Approx. N =	8179	8578		7204	7155		2480	2586	

NOTE: Level of significance of difference between the two years: s = .05, ss = .01, sss = .001.
'—' indicates data not available.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, (5) Very easy. For 8th and 10th grades, there was another category–"Can't say, drug unfamiliar"–which was included in the calculation of these percentages.

- ***Alcohol*** is seen as only slightly less available, with 65% of the eighth graders and 83% of the tenth graders saying they could get it fairly easily or very easily.

- By contrast, the illicit drugs are seen as far less accessible by these younger students. ***Marijuana*** is described as fairly easy or very easy to get by less than one-third (30%) of the eighth graders, with ***crack*** (18%), ***cocaine powder*** (17%), and ***steroids*** (15%) coming next. We assume that many inhalants–such as glues, butane, and aerosols–are universally available, and therefore, a question on their availability was not included.

- When we compare eighth, tenth, and twelfth grade, we find that perceived availability rises sharply with grade level. For example, while 30% of eighth graders say ***marijuana*** would be fairly easy or very easy to get, 53% of tenth graders say that, and 83% of the twelfth graders. In fact, for the other drugs included in the question, the proportion of students saying they are available to them doubles or triples between eighth grade and twelfth grade. These differences are probably attributable to the overall differences in prevalence rates across these grade levels: the children in lower grades are likely to have fewer friends who use, and thus, are less likely to have access through those friends. They may also reflect less willingness and/or less motivation on the part of those who deal drugs to establish contact with younger children.

- ***Marijuana*** appears to be universally available to high school seniors; some 83% report that they think it would be "very easy" or "fairly easy" for them to get–50% more than the number who report ever having used it (33%). (See Table 30.)

- After marijuana, twelfth grade students indicate that ***amphetamines*** are among the easiest drugs to obtain (59%).

- More than half of the seniors (53%) now see ***cocaine*** as readily available to them, and 44% of all seniors think ***crack*** is readily available.

- ***LSD***, ***barbiturates***, ***tranquilizers***, ***psychedelics other than LSD***, and ***opiates other than heroin*** are reported as available by substantial minorities of seniors (45%, 44%, 41%, 30%, and 37%, respectively). See Table 30 for the full list of drugs included in the questions of twelfth graders; many of these were not asked of the younger students.

TABLE 30

Trends in Perceived Availability of Drugs, Twelfth Graders

Q *How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?*	Percentage saying drug would be "fairly easy" or "very easy" for them to get[a]																	
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Marijuana	87.8	87.4	87.9	87.8	90.1	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	85.0	84.3	84.4	83.3	82.7	–0.6
Amyl & Butyl Nitrites	—	—	—	—	—	—	—	—	—	—	—	—	23.9	25.9	26.8	24.4	22.7	25.9	+3.2s
LSD	46.2	37.4	34.5	32.2	34.2	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	33.3	38.3	40.7	39.5	44.5	+5.0ss
PCP	—	—	—	—	—	—	—	—	—	—	—	—	22.8	24.9	28.9	27.7	27.6	31.7	+4.1s
MDMA (ecstasy)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	22.0	22.1	24.2	+2.1
Some other psychedelic	47.8	35.7	33.8	33.8	34.6	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3	28.0	29.9	+1.9
Cocaine	37.0	34.0	33.0	37.8	45.5	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	55.0	58.7	54.5	51.0	52.7	+1.7
Crack	—	—	—	—	—	—	—	—	—	—	—	—	41.1	42.1	47.0	42.4	39.9	43.5	+3.6s
Cocaine powder	—	—	—	—	—	—	—	—	—	—	—	—	52.9	50.3	53.7	49.0	46.0	48.0	+2.0
Heroin	24.2	18.4	17.9	16.4	18.9	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	28.0	31.4	31.9	30.6	34.9	+4.3ss
Some other narcotic (including methadone)	34.5	26.9	27.8	26.1	28.7	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	35.8	38.3	38.1	34.6	37.1	+2.5
Amphetamines	67.8	61.8	58.1	58.5	59.9	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	63.9	64.3	59.7	57.3	58.8	+1.5
Crystal meth. (ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.1	24.3	26.0	+1.7
Barbiturates	60.0	54.4	52.4	50.6	49.8	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	47.8	48.4	45.9	42.4	44.0	+1.6
Tranquilizers	71.8	65.5	64.9	64.3	61.4	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	49.1	45.3	44.7	40.8	40.9	+0.1
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.7	46.8	+0.1
Approx. N =	2627	2865	3065	3598	3172	3240	3578	3602	3385	3269	3274	3077	3271	3231	2806	2549	2476	2586	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

- ***Amyl and butyl nitrites*** are seen by the fewest twelfth graders (26%) as being easy to get, perhaps reflecting the proliferation of state laws making over-the-counter sales of these drugs illegal.

- ***Ice*** also is available to only a quarter (26%) of the seniors.

- Among seniors, the great majority of fairly recent users of ***all drugs***–that is, of those who have illicitly used the drug in the past year–feel that it would be easy for them to get that same type of drug (usually two-thirds or more). (Data are not displayed here.)

Trends in Perceived Availability for Twelfth Graders

Trend data on availability for seniors are presented in Figures 33a through 33c and in Table 30.

- For the first time since the study began in 1975, ***marijuana*** showed a small but statistically significant decline in perceived availability between 1982 and 1984 (down 3.9%) , undoubtedly due to the reduced proportion of seniors who has friends who used. There has been little further change since then, and 83% of the class of 1992 think marijuana would be easy to get.

- ***Amphetamines*** showed a jump in availability of 11 percentage points between 1979 and 1982; but availability has dropped back by 12 percentage points in the years since.

- The perceived availability of ***barbiturates*** also jumped about 6% between 1980 and 1982, but dropped back by 11 points in subsequent years reflecting its continued drop in the number of users.

- Between 1977 and 1980 there was a substantial increase (15 percentage points) in the perceived availability of ***cocaine*** (see Figures 33a and 33b and Table 30). Among recent cocaine users there also was a substantial increase observed over that three-year interval (data not shown). Availability then leveled, and dropped some in 1983 and 1984, before rising significantly (by 4%) in 1985. Perceived availability rose another 2.6% in 1986. Since 1986 actual use of cocaine has dropped sharply, *but* reported availability continued to rise through 1989. The fact that there was no drop in perceived availability between 1986 and 1989 leads us to discount any reduction in supply as a possible explanation for the significant decline in use observed in those years. Between 1989 and 1992 there was a significant six percentage point decrease in perceived availability–perhaps reflecting the impact of the greatly reduced proportion of seniors who have friends who use (which dropped by eleven percentage points in the same interval).

FIGURE 33a

Trends in Perceived Availability of Drugs for Twelfth Graders

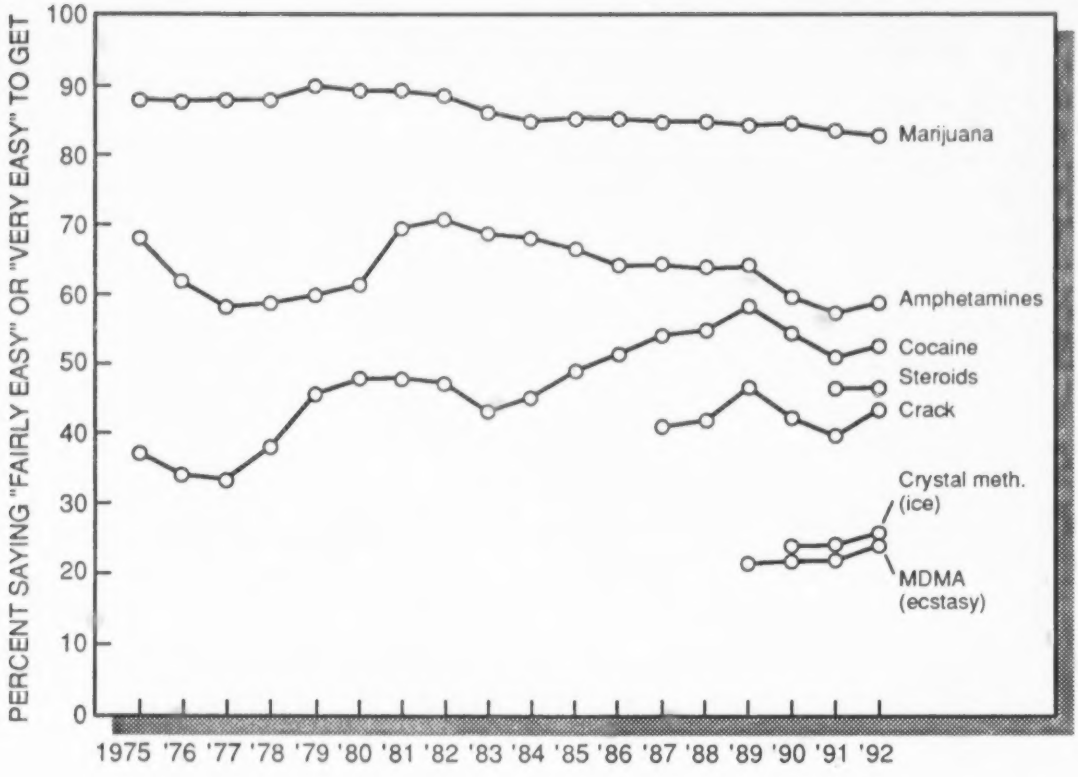


FIGURE 33b

Trends in Perceived Availability of Drugs for Twelfth Graders

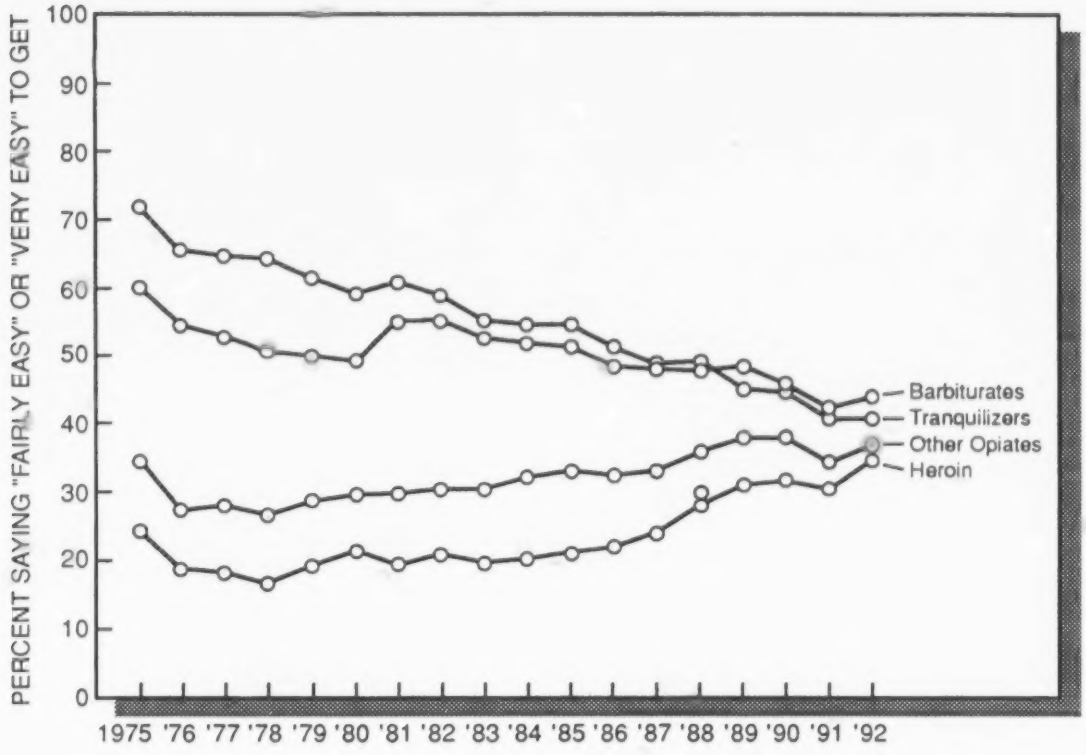
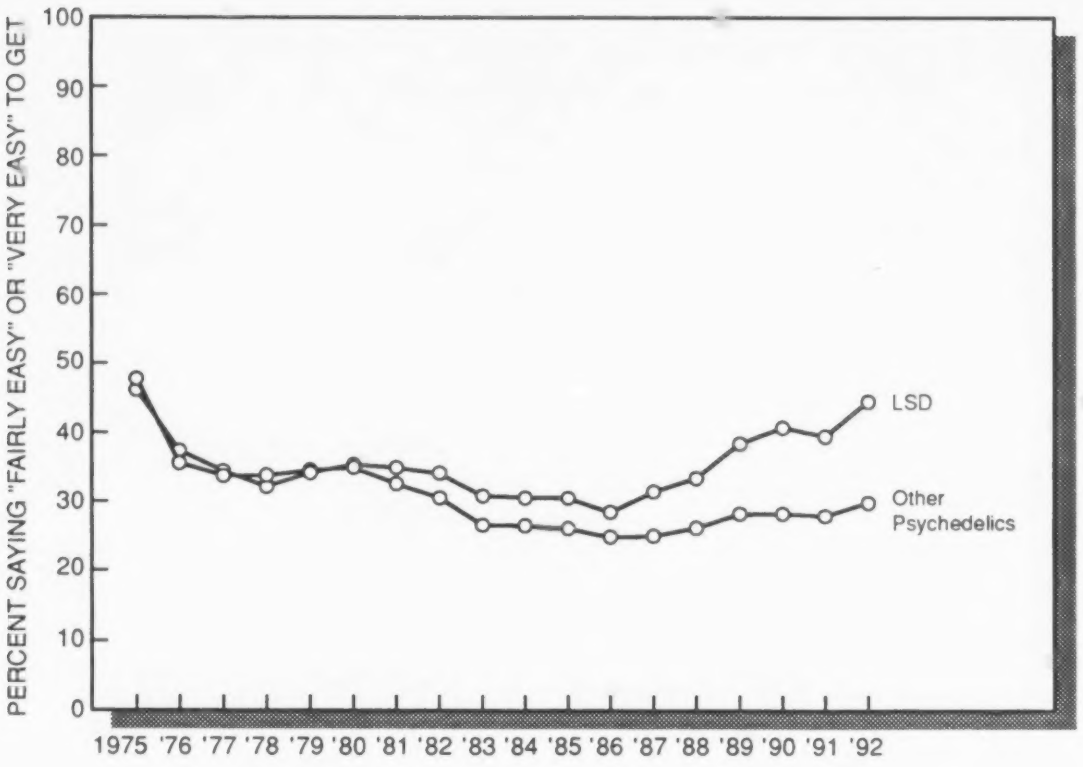


FIGURE 33c

Trends in Perceived Availability of Drugs for Twelfth Graders



- ***Crack*** availability has only been asked since 1987; it has fluctuated between 40% and 47% (Figure 33a).

- The use of ***tranquilizers*** has been declining fairly steadily since 1977 and perceived availability has declined over the same period, though by a smaller proportion.

- The perceived availability of ***LSD*** dropped sharply between 1975 and 1986, from 46% to 29% saying it could be fairly easy or very easy to get. Since then availability rose to 40% in 1990, where it remained in 1991. In 1992 availability increased sharply to 46%, its highest point since 1975. (See Table 30.)

- The availability of ***other psychedelics*** also dropped sharply between 1975 and 1978, and since 1978 has shown a further decline of 4%. During the latter period the use of PCP dropped substantially, although availability has risen slightly in recent years, increasing significantly in 1992.

- For the decade between 1976 and 1986 there was little change in the perceived availability of ***heroin*** (Figure 33b). A significant increase occurred between 1986 and 1989 followed by very little change in 1990 and 1991. In 1992, perceived availability again increased significantly. It is now perceived as being fairly easy or very easy to get by fully one-third (35%) of the twelfth graders. This is the highest level attained since the study began.

- ***Other opiates*** have shown a very slight, gradual, upward shift in availability, from 29% in 1980 to 38% in 1989, with little change since.

- When the sample is restricted to recent users of each of the drugs, who might be assumed to be the most knowledgeable about actual availability on the street, all these trends in perceived availability are similar (data not shown).

Trends in Perceived Availability for Eighth and Tenth Graders

- Tenth graders showed no significant change in perceived availability (Table 29), but the eighth graders did show significant increases for ***marijuana***, ***cocaine powder***, and ***crack***. The increases may well reflect an increase in the proportions of eighth graders having friends who use.

- There was no significant change in the very high level of availability of ***cigarettes*** to the eighth or tenth graders (71% and 88%, respectively, say they would be fairly easy or very easy to get).

- There was no significant change in the very high level of ***alcohol*** availability either: 65% for eighth graders, 83% for tenth graders.

The Importance of Supply Reduction vs. Demand Reduction

- Overall, it is important to note that ***supply reduction*** does not appear to have played a major role in perhaps the two most important downturns in use which have occurred to date–namely, those for ***marijuana*** and ***cocaine***. (See Figures 23 and 24.) In the case of cocaine, perceived availability was actually rising during much of the period of downturn in use–a conclusion which is corroborated by data from the Drug Enforcement Administration on trends in the price and purity of cocaine on the streets. In the case of marijuana, availability has remained almost universal to this age group over the last 18 years, while use has dropped substantially. Similarly, ***amphetamine*** use has declined appreciably since 1981 with only a modest corresponding change in perceived availability; ***heroin*** use has not risen among seniors even though there has been a substantial increase in availability.

- What has changed dramatically are young peoples' beliefs about the dangers of using marijuana and cocaine; and, as we have been saying for some years, we believe these changes have led to a decrease in use directly through their impact on the young peoples' demand for these drugs, and indirectly through their impact on personal disapproval and subsequently on peer norms. Because perceived risks of amphetamine use were not changing much when amphetamine use was declining substantially (1981-1986), other factors must help to account for the decline in demand for that class of drugs–quite conceivably a displacement to cocaine. And because the three classes of drugs (marijuana, cocaine and amphetamines) have shown *different* patterns of change, it is highly unlikely that a general factor (e.g., a general shift against drug use) can explain the various trends.

Chapter 10

OTHER FINDINGS FROM THE STUDY

Each year this section presents additional recent findings from the Monitoring the Future study. Sometimes these have been published recently as journal articles or chapters; however, the first two analyses included here–on the use of nonprescription stimulants and daily marijuana use–have not been reported elsewhere.

THE USE OF NONPRESCRIPTION STIMULANTS

As is discussed in other chapters of this report, between 1979 and 1981 we observed a substantial increase in reported stimulant use by high school students. We had reason to believe that a fair part of that increase was attributable to nonprescription stimulants of two general types–"look-alike" drugs (pseudo-amphetamines, usually sold by mail order, which look like, and often have names that sound like, real amphetamines) and over-the-counter stimulants (primarily diet pills and stay-awake pills). These drugs usually contain caffeine, ephedrine, and/or phenylpropanolamine as their active ingredients.

Beginning with the 1982 survey we introduced new questions on some questionnaire forms in order to more accurately assess the use of amphetamines as well as to assess the use of the "look-alikes," diet pills, and stay-awake pills of the nonprescription variety. For example, on one of the five questionnaire forms in 1982-1988 and on one of six questionnaire forms beginning in 1989, respondents were asked to indicate on how many occasions (if any) they had taken nonprescription diet pills such as Dietac™, Dexatrim™, and Prolamine™ (a) in their lifetime, (b) in the prior twelve months, and (c) in the prior thirty days. (These correspond to the standard usage questions asked for all drugs.) Similar questions were asked about nonprescription stay-awake pills (such as No-Doz™, Vivarin™, Wake™, and Caffedrine™) and the "look-alike" stimulants. (The latter were described at some length in the actual question.)

On three of the five questionnaire forms in 1982 and 1983 (and in all questionnaire forms thereafter) respondents were also asked about their use of prescription amphetamines, with very explicit instructions to exclude the use of over-the-counter and "look-alike" drugs.

Prevalence of Use Among Seniors

- Tables 31a, 31b, and 31c give the prevalence levels for these various classes of stimulants. As can be seen, a substantial proportion of students (15%) have used over-the-counter ***diet pills*** and 4% have used them in just the past month. Some 0.5% of seniors are using them daily.
- Based on the data presented earlier in this report, we know that very similar proportions are using actual ***amphetamines***, 14% lifetime, 3% monthly, and 0.2% daily prevalence.

TABLE 31a

Non-Prescription Diet Pills: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence, by Sex[a]

(Entries are percentages)

	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Prevalence												
Lifetime												
Total	29.6	31.4	29.7	28.7	26.6	25.5	21.5	19.9	17.7	17.2	15.0	–2.2
Males	16.5	17.4	14.8	14.8	13.1	12.4	9.4	9.1	7.8	5.9	6.4	+0.5
Females	42.2	44.8	43.1	41.5	39.7	38.3	32.6	30.2	28.3	28.1	23.2	–4.9s
Annual												
Total	20.5	20.5	18.8	16.9	15.3	13.9	12.2	10.9	10.4	8.8	8.4	–0.4
Males	10.7	10.6	9.2	9.0	6.9	6.4	4.9	4.3	4.3	3.0	4.3	+1.3
Females	29.5	30.0	27.5	24.4	23.2	21.1	18.8	17.2	16.7	14.2	12.2	–2.0
Thirty-Day												
Total	9.8	9.5	9.9	7.3	6.5	5.8	5.1	4.8	4.3	3.7	4.0	+0.3
Males	5.0	4.0	4.8	3.7	3.2	2.7	1.8	2.3	1.9	1.4	1.9	+0.5
Females	14.0	13.7	14.2	10.7	9.6	8.9	8.3	7.0	6.7	5.5	5.8	+0.3

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss= .01, sss = .001.

[a]Data based on one form N. Total N in 1982-1989 is approximately 3300. In 1990-1992, the total N is approximately 2600.

TABLE 31b

Stay-Awake Pills: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence, by Sex[a]

(Entries are percentages)

	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'90–'91 change
Prevalence												
Lifetime												
Total	19.1	20.4	22.7	26.3	31.5	37.4	37.4	36.3	37.0	37.0	35.6	–1.4
Males	20.2	22.3	23.2	28.0	32.0	34.8	38.0	37.7	35.3	36.0	34.4	–1.6
Females	16.9	18.2	21.7	24.9	31.3	39.4	36.7	35.1	39.2	37.9	37.3	–0.6
Annual												
Total	11.8	12.3	13.9	18.2	22.2	25.2	26.4	23.0	23.4	22.2	20.4	–1.8
Males	12.8	13.8	15.4	19.7	22.3	25.5	27.6	24.8	22.3	22.3	20.9	–1.4
Females	10.0	10.5	12.5	17.0	22.2	25.0	25.2	21.7	24.5	22.0	20.2	–1.8
Thirty-Day												
Total	5.5	5.3	5.8	7.2	9.6	9.2	9.8	8.5	7.3	6.8	7.2	+0.4
Males	6.0	5.5	6.2	7.7	9.5	9.3	11.0	10.0	7.1	7.6	7.8	+0.2
Females	4.7	4.5	5.5	6.7	9.3	9.1	8.6	6.9	7.3	5.5	6.5	+1.0

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

[a]Data based on one form N. Total N in 1982-1989 is approximately 3300. In 1990-1992, the total N is approximately 2600.

TABLE 31c

Look-Alikes: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence, by Sex[a]

(Entries are percentages)

Prevalence	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91–'92 change
Lifetime												
Total	15.1	14.8	15.3	14.2	12.7	11.9	11.7	10.5	10.7	8.9	10.1	+1.2
Males	13.6	14.2	14.1	14.1	12.3	10.9	10.4	10.1	11.6	8.3	11.0	+2.7
Females	15.1	14.4	15.2	13.8	12.6	12.3	12.1	10.2	9.9	8.8	9.3	+0.5
Annual												
Total	10.8	9.4	9.7	8.2	6.9	6.3	5.7	5.6	5.6	5.2	5.4	+0.2
Males	9.5	9.2	9.7	8.3	6.5	6.4	4.2	6.1	6.6	4.9	6.2	+1.3
Females	10.7	8.6	8.5	7.8	6.7	6.0	6.3	5.0	4.6	4.7	4.5	–0.2
Thirty-Day												
Total	5.6	5.2	4.4	3.6	3.4	2.7	2.7	2.4	2.3	2.1	2.4	+0.3
Males	4.0	4.5	4.5	3.8	3.4	2.4	1.7	2.3	2.6	2.0	2.5	+0.5
Females	5.2	5.4	3.8	3.1	3.0	2.7	3.0	2.2	1.8	1.8	2.2	+0.4

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

[a]Data based on one form N. Total N in 1982-1989 is approximately 3300. In 1990-1992, the total N is approximately 2600.

- Fewer students knowingly use the ***look-alikes*** than use diet pills or amphetamines (adjusted): 10% lifetime, 2% monthly, and 0.3% daily prevalence. Of course, it is probable that some proportion of those who think they are getting real amphetamines have actually been sold look-alikes, which are far cheaper for drug dealers to purchase.

- Currently, ***stay-awake pills*** are the most widely used stimulant: 36% lifetime, 7% monthly, and 0.4% daily prevalence.

- In 1983 the newly revised question on amphetamine use yielded prevalence estimates which were about one-quarter to one-third lower than the original version of the question, indicating that some distortion in the unadjusted estimates was occurring as a result of the inclusion of some nonprescription stimulant use. We believe that there should be little or no such distortion in recent years primarily to the improvement in the questions but also to the fact that has been a decline in the use of diet pills and look-alikes, as discussed below.

Subgroup Differences

- Figure 34 shows the prevalence figures for these drug classes for ***males and females*** separately. It can be seen that the use of ***diet pills*** is dramatically higher among females than among males. In fact, the absolute prevalence levels for females are impressively high, 23% report some experience with them and 6%–or one in every seventeen females–report use in just the last month. For all other stimulants the prevalence rates for both sexes are fairly close.

- A similar comparison for those planning four years of ***college*** (referred to here as the "college-bound") and those who are not, has shown some differences as well (data not shown). Use of the ***look-alikes*** is now about the same among the college-bound (5% annual prevalence) as among the noncollege-bound, 4%.

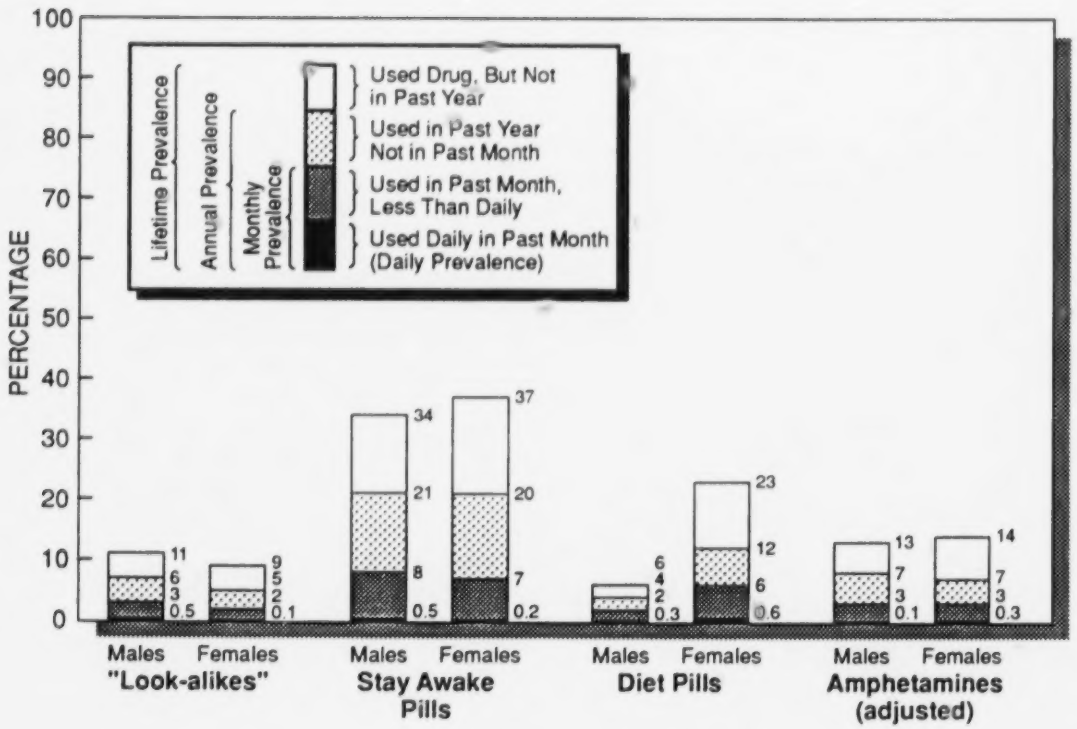
- This year's results show no difference between these two groups in their use of stay-awake pills; annual prevalence is 21% for both college-bound and noncollege-bound. Use of ***diet pills*** is higher for the noncollege-bound: annual prevalence is 11% vs. 8% for the college-bound.

- There have not been any dramatic ***regional differences*** in the use of diet pills, but the 1991 and 1992 data show distinctly higher rates for "look-alikes" and stay-awake pills in the North Central region.
- All three nonprescription stimulants have lowest prevalence in the large cities.

- The use of all of the nonprescription stimulants (i.e., ***diet pills***, ***stay-awake pills***, and "***look-alikes***") is substantially higher among

FIGURE 34

Prevalence and Recency of Use, by Sex
Amphetamines and Non-Prescription Stimulants
Twelfth Graders, 1992



those who have had experience with the use of illicit drugs than among those who have not, and highest among those who have become most involved with illicit drugs (see Table 32). For example, only 2.8% of those who have abstained from any illicit drug use report ever having used a ***look-alike*** stimulant, compared to 9.1% of those who report having used only marijuana and 30.7% of those who report having used some illicit drug other than marijuana.

Trends in Use Among Seniors

- Because these questions were new in 1982, trends can be assessed directly only since then.

- However, it is worth noting that the adjusted 1982 figures for ***amphetamines*** are higher than the unadjusted figures for all years prior to 1980. (See Tables 11 through 14.) This suggests that there was indeed an increase in amphetamine use between 1979 and 1982–or at least an increase in what, to the best of the respondent's knowledge, were amphetamines.

- During the 1980s there were increased legislative and law enforcement efforts to curb the manufacture and distribution of ***look-alike pills***. Perhaps as a result, the use of these pills decreased from 1982 to 1992; for example, annual prevalence went from 10.8% in 1982 to 5.7% in 1988. Most of the decline occurred among those who have had experience with illicit drugs other than marijuana–the group primarily involved in the use of "look-alikes". Since 1988 use has remained essentially level.

- Use of ***diet pills*** decreased between 1983 and 1992. Over that interval annual prevalence fell from 21% to 8%. Nearly all of this decline occurred among the group who had used illicit drugs other than marijuana.

- The use of ***stay-awake*** pills had increased significantly in the early to mid-1980s; annual prevalence increased from 12% in 1982 to 26% in 1988. Since then it has dropped back somewhat, to 20% in 1992. Both the increase and decrease occurred primarily among those who have had experience in the use of illicit drugs, including those who had used only marijuana (data not shown).

- All subgroups (defined by sex, college plans, region of the country, and population size) showed similarly large increases from 1982 to 1988 in their use of ***stay-awake pills***. All subgroups decreased in annual prevalence between 1988 and 1992, though there has been rather little decrease in the North Central region.

TABLE 32

Percent of Twelfth Graders in Each Category of an Illicit Drug Use Index Who Have Tried Various Over-the-Counter Stimulants 1992

	Lifetime Illicit Drug Use		
Lifetime use of...	No Use	Marijuana Only	Other Illicit Drugs
Diet Pills	9.7[a]	12.7	31.5
Stay-Awake Pills	22.4	45.3	66.0
"Look-Alikes"	2.8	9.1	30.7
Approx. N=	(1456)	(437)	(572)

[a]This means that, of those who have never used an illicit drug, 9.7% have used a diet pill at least once.

- Subgroup differences in trends for ***diet pills*** and ***look-alikes*** for the most part reflect the overall trends.

THE USE OF MARIJUANA ON A DAILY BASIS

In past reports in this series, we summarized a number of findings regarding daily marijuana users, including what kind of people they are, how use changes after high school for different subgroups, and what daily users see to be the negative consequences of their use.[32] In 1982 a special question segment was introduced into the study in one of the five questionnaire forms in order to secure more detailed measurement of individual patterns of daily use. (This question was included in one of six forms since 1988.) More specifically, respondents were asked (a) whether at any time during their lives they had ever used marijuana on a daily or near-daily basis for at least a month and, if so, (b) how recently they had done that, (c) when they first had done it, and (d) how many total months they had smoked marijuana daily, cumulating over their whole lifetime. The results of our analyses of these questions follow.

Lifetime Prevalence of Daily Use

- ***Current daily use***, defined as use on twenty or more occasions in the past thirty days, has been fluctuating widely since the study began, as we know from the trend data presented earlier in this report. It rose from 6.0% among seniors in 1975 to 10.7% in 1978, then declined to 1.9% by 1992.

- Since 1982, we have found the ***lifetime prevalence of daily use*** for a month or more to be far higher than current daily use–e.g., at 8.4% or one in every twelve seniors in 1992, vs. 1.9% for current daily use. In other words, the proportion who describe themselves as having been daily or near-daily users at some time in their lives is more than four times as high as the number who describe themselves as current daily users. (However, we believe it very likely that this ratio has changed dramatically over the life of the study as a result of the large secular trends in daily use. Therefore, it would be inaccurate to extrapolate to the class of 1978, for example, and deduce that their lifetime prevalence of daily use was four times their 10.7% current use figure that year. An investigation of data from a follow-up panel of the class of 1978 confirms this assertion.)

- Utilizing data collected in 1989 from follow-up panels from the earlier graduating classes of 1976 through 1988, we found that the lifetime prevalence of daily marijuana use for these graduates (ranging in age

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[32]For the original reports see the following, which are available from the author: Johnston, L.D. (1981). Frequent marijuana use: Correlates, possible effects, and reasons for using and quitting. In R. DeSilva, R. Dupont, & G. Russell (Eds.), *Treating the marijuana dependent person*, New York: The American Council on Marijuana. Also see Johnston, L.D. (1982). A review and analysis of recent changes in marijuana use by American young people. In *Marijuana: The national impact on education*, New York: The American Council on Marijuana.

from about 19 to 31) was 20%. Approximately one-fourth of the older portion of that group–graduates from the classes of 1976 through 1979–indicated having been daily marijuana users for a month or more at some time in their lives.

Grade of First Daily Use

- Of those 1992 seniors who were daily users at some time (8.4% of the sample), two-thirds (67%, or 5.6% of all seniors) began that pattern of use before tenth grade. However, the secular trends in daily use must be recalled. Active daily use reached its peak among seniors in 1978, when the 1990 graduating class was in kindergarten. Thus we are confident that different graduating classes show different age-associated patterns of onset.

- Nearly all who were to become daily users by the end of high school had done so by the end of grade ten (85% of the eventual daily users). The percentages of all seniors who started daily marijuana use in each grade level is presented in Table 33.

Recency of Daily Use

- Nearly two-thirds (62%) of those who report ever having been daily marijuana users (for at least a one-month interval) have smoked that frequently in the past year, while over one-third (38%) of them say they last used that frequently "about two years ago" or longer. On the other hand, only 19% of all such users (or 1.6% of the entire sample) classified themselves as having used daily or almost daily in the past month (the period for which we define *current daily users*). Our own operational definition of current daily users yields 1.9% in 1992, very close to the 1.6% defined by the respondents themselves.

Duration of Daily Use

- It seems likely that the most serious long-term health consequences associated with marijuana use will be directly related to the duration of heavy use and in the late 1970's there was considerable concern that a large population of chronic heavy users would evolve. Thus a question was introduced which asks the respondent to estimate the *cumulative* number of months he or she has smoked marijuana daily or nearly daily. While hardly an adequate measure of the many different possible cross-time patterns of use–a number of which may eventually prove to be important to distinguish–it does provide a gross measure of the total length of exposure to heavy use.

- Table 33 gives the distribution of answers to this question. It shows that two-thirds (67%) of those seniors with daily use experience have used "about one year" or less cumulatively–at least by the end of

twelfth grade. In fact, a third (32%) have used less than three months cumulatively. On the other hand, over one-fourth (27%, or 2.3% of *all* seniors) have used "about two years" or more cumulatively.

Subgroup Differences

- There is now only a modest ***sex difference*** in the proportion having ever been a daily user–8.3% for males and 7.5% for females; and the cumulative duration of daily use is now only slightly longer for the males.

- Whether or not the student has ***college plans*** is strongly related to lifetime prevalence of daily marijuana use, as well as to current prevalence. Of those planning four years of college, 5.9% had used daily compared with 11.2% of those without such plans. And the college-bound users show a distinctly shorter cumulative duration of use, with a lower proportion of them still using daily. Among those in each group who did use daily, the age-at-onset pattern is younger for the noncollege-bound.

- At present there are fair sized ***regional differences*** in lifetime prevalence of daily use; the West is highest, with 13.4% having used daily at some time, the Northeast is next at 8.7%, followed by the North Central at 8.0%, and the South at 5.9%.

- The differences associated with ***urbanicity*** are now very small as is true for current daily use. Lifetime prevalence of daily marijuana use is 8.4% in the large cities, 8.9% in the smaller cities, and 7.6% in the nonurban areas. Current daily use is 1.9% in the large cities, 1.7% in the smaller cities, and 2.1% in the nonurban areas.

Trends in Use of Marijuana on a Daily Basis

- Table 34 presents trend data on the lifetime prevalence of daily use for a month or more. It shows a decline since 1982 when this measure was first used, through 1992–from 21% to 8%.

- Between 1982 and 1992, the decline in lifetime daily use was slightly stronger among males (20% to 8%) than among females (from 18% to 8%); and the absolute drop was larger in the noncollege-bound group (23% to 11%) than among the college-bound (14% to 6%), although the proportional drop was not.

- Lifetime prevalence of daily use has dropped in all four regions of the country since 1982. The decline has been greatest in the Northeast.
- All three population density levels have shown declines in lifetime daily use.

TABLE 33

Daily Marijuana Use: Responses to Selected Questions by Subgroups Twelfth Graders, 1992

	Total	Sex		4-Year College Plans		Region				Population Density		
		Male	Female	No	Yes	North East	North Central	South	West	Large SMSA	Other SMSA	Non-SMSA
Q. Thinking back over your whole life, has there ever been a period when you used marijuana or hashish on a daily, or almost daily, basis for at least a month?												
No	91.6	91.7	92.5	88.8	94.1	91.3	92.0	94.1	86.6	91.6	91.1	92.4
Yes	8.4	8.3	7.5	11.2	5.9	8.7	8.0	5.9	13.4	8.4	8.9	7.6
Q. How old were you when you first smoked marijuana or hashish that frequently?												
Grade 6 or earlier	0.9	1.0	0.7	1.3	0.6	1.1	0.8	0.9	0.9	1.0	0.8	1.3
Grade 7 or 8	2.7	2.6	2.7	3.9	2.0	2.4	2.7	1.6	5.0	3.3	3.0	1.5
Grade 9 (Freshman)	2.0	2.0	1.6	2.6	1.2	1.3	1.2	1.9	3.9	1.4	2.0	2.5
Grade 10 (Sophomore)	1.5	1.5	1.3	2.4	0.8	2.6	2.1	0.8	1.2	1.4	1.7	1.3
Grade 11 (Junior)	0.9	0.7	1.1	0.8	0.9	1.3	1.0	0.5	1.4	1.2	1.0	0.5
Grade 12 (Senior)	0.4	0.5	0.1	0.1	0.4	0.0	0.2	0.2	1.0	0.1	0.3	0.6
Never used daily	91.6	91.7	92.5	88.8	94.1	91.3	92.0	94.1	86.6	91.6	91.1	92.4
Q. How recently did you use marijuana or hashish on a daily, or almost daily, basis for at least a month?												
During the past month	1.6	2.0	1.0	2.4	0.9	0.8	1.6	1.6	2.4	1.9	1.9	0.7
2 months ago	0.5	0.5	0.5	1.3	0.2	0.2	1.0	0.3	0.7	0.5	0.7	0.1
3 to 9 months ago	1.9	2.1	1.5	1.2	1.8	2.2	1.2	1.7	2.9	0.8	2.4	1.9
About 1 year ago	1.2	1.1	1.3	1.9	0.8	1.3	1.1	0.8	2.0	2.1	0.8	1.2
About 2 years ago	1.3	1.2	0.7	2.2	0.5	0.8	1.2	0.7	2.9	1.3	1.5	0.7
3 or more years ago	1.9	1.5	2.5	2.2	1.7	3.3	1.9	0.9	2.5	1.8	1.5	3.0
Never used daily	91.6	91.7	92.5	88.8	94.1	91.3	92.0	94.1	86.6	91.6	91.1	92.4
Q. Over your whole lifetime, during how many months have you used marijuana or hashish on a daily or near-daily basis?												
Less than 3 months	2.7	2.4	3.2	3.4	2.5	3.9	3.2	1.3	3.8	3.2	2.8	2.3
3 to 9 months	2.1	2.4	1.7	1.7	1.8	2.4	1.9	1.5	3.1	0.8	2.4	2.7
About 1 year	0.8	0.9	0.9	1.6	0.5	1.0	0.5	1.0	0.9	0.9	0.6	1.1
About 1 and 1/2 years	0.5	0.4	0.5	0.6	0.1	0.1	0.4	0.0	1.5	0.5	0.5	0.2
About 2 years	0.7	0.2	0.1	0.5	0.1	0.7	0.8	0.5	1.2	1.0	1.1	0.0
About 3 to 5 years	1.2	1.7	0.9	2.7	0.7	0.0	1.1	1.1	2.7	1.7	1.3	0.7
6 or more years	0.4	0.2	0.2	0.7	0.1	0.5	0.1	0.5	0.1	0.3	0.2	0.6
Never used daily	91.6	91.7	92.5	88.8	94.1	91.3	92.0	94.1	86.6	91.6	91.1	92.4
N =	(2578)	(1187)	(1280)	(555)	(1789)	(450)	(724)	(908)	(496)	(590)	(1341)	(648)

NOTE: Entries are percentages which sum vertically to 100%.

TABLE 34

Trends in Daily Use of Marijuana in Lifetime by Subgroups, Twelfth Graders

	Percentage ever using daily for at least a month												Percentage reporting first such use prior to tenth grade											
	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91-'92 change	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	'91-'92 change
All seniors	20.5	16.8	16.3	15.6	14.9	14.7	12.8	11.5	10.0	9.0	8.4	-0.6	13.1	11.1	10.9	8.8	8.5	8.9	7.8	7.6	6.7	6.4	5.6	-0.8
Sex																								
Male	20.1	18.1	17.2	17.7	16.6	16.2	14.8	12.7	10.6	10.5	8.3	-2.2	12.9	12.1	11.8	9.8	8.7	10.2	8.4	8.4	6.9	7.4	5.6	-1.8
Female	18.0	13.5	12.9	12.0	11.6	12.2	9.6	9.7	7.9	6.4	7.5	+1.1	11.5	8.3	8.0	6.5	6.6	7.1	6.6	6.0	4.9	4.4	5.0	+0.6
College Plans																								
None or under 4 yrs	22.6	20.3	18.9	19.6	17.2	18.0	14.5	15.3	12.8	11.5	11.2	-0.3	14.2	13.5	12.3	11.8	10.7	11.4	11.0	11.6	9.0	8.7	7.8	-0.9
Complete 4 yrs	13.8	10.5	10.7	10.6	11.0	11.1	9.8	9.1	7.4	6.5	5.9	-0.6	8.2	6.5	6.6	5.5	5.2	6.4	5.3	5.1	4.6	4.3	3.8	-0.5
Region																								
Northeast	25.1	20.4	24.1	20.9	21.5	17.0	13.1	14.6	10.4	10.3	8.7	-1.6	17.3	11.9	17.2	12.9	10.3	10.3	9.0	10.7	6.5	8.2	4.8	-3.4
North Central	21.1	15.9	12.8	16.3	11.3	12.7	10.3	13.4	10.8	8.4	8.0	-0.4	13.3	12.4	8.4	9.1	7.3	7.7	6.0	7.6	6.7	4.9	4.7	-0.2
South	15.7	12.7	14.0	8.9	11.3	11.9	10.9	8.1	8.7	7.4	5.9	-1.5	9.3	8.3	8.5	5.0	6.4	7.4	6.3	5.4	6.2	5.1	4.4	-0.7
West	20.8	21.4	17.6	18.5	18.3	19.7	19.0	12.3	11.0	11.3	13.4	+2.1	12.6	13.9	12.1	8.9	11.2	11.7	11.9	8.1	8.0	8.6	9.8	+1.2
Population Density																								
Large SMSA	23.8	20.0	19.4	18.1	17.0	16.7	14.0	10.6	8.3	7.2	8.4	+1.2	15.6	13.7	12.4	12.0	9.6	11.8	8.1	6.0	5.9	5.4	5.7	+0.3
Other SMSA	20.3	18.2	16.6	16.0	14.9	15.0	14.9	12.4	11.7	11.1	8.9	-2.2	12.5	12.0	11.5	8.3	8.4	8.8	9.6	8.1	8.1	7.7	5.8	-1.9
Non-SMSA	17.9	12.6	13.2	12.8	13.2	12.2	7.6	10.4	8.2	7.1	7.6	+0.5	11.7	8.2	8.5	6.6	7.6	6.4	4.3	7.6	4.3	5.3	5.3	0.0

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

- Daily use prior to tenth grade has declined from 13% in the class of 1982 to 6% in the class of 1992. (This corresponds to people who were ninth graders between 1979 to 1989.) Subgroup trends may be examined in Table 34.

THE INFLUENCE OF PART-TIME WORK ON ADOLESCENTS

Research over the past decade (including some of our own[33]) has challenged the assumption that part-time work is unequivocally beneficial for adolescents. This is especially true for high work intensity (e.g., working more than 20 hours per week). Most of the evidence for this challenge, however, has been correlational, making it difficult to draw conclusions about the direction of influence between work intensity and negative psychosocial outcomes.

In an article recently published in *Developmental Psychology,*[34] data from the 1985-1989 high school seniors (including over 70,000 students), were used to address several critical issues with respect to the impact of part-time work: a) the balance of potentially positive and negative psychosocial correlates of part-time work; b) whether there is a "cut-off point" of hours of work, at which the negative correlates increase more rapidly; and most importantly, c) the casual direction between work intensity and psychosocial outcomes. In an attempt to provide a more complete picture of both the positive and negative correlates of part-time work, we focused our attention on four broad psychosocial domains: a) substance use (including cigarette, alcohol, marijuana, and cocaine use); b) other problem behaviors (including interpersonal aggression, theft, and trouble with police); c) time use (including time spent on sleep, exercise, and dating); and d) general and specific life satisfaction and self-esteem. In an effort to discern any optimal level of work intensity, we examined the shape of the relation between work intensity and each outcome variable. Finally, in an attempt to consider possible third-variable explanations, we conducted multivariate analyses that controlled background characteristics, as well as educational success and commitment. In particular, we contrasted the impact of various indexes of educational commitment and success with the impact of work intensity.

Within the array of constructs that we considered, our findings showed the correlates of part-time work intensity to be largely undesirable. Most notably, work intensity was positively correlated with smoking cigarettes, drinking alcohol, using illicit drugs, interpersonal aggression, theft, victimization, trouble with police, arguments with parents, lack of sleep, and lack of exercise. Work intensity was negatively correlated with seniors' satisfaction with the way their leisure time is spent. And, of course, our initial analyses showed that work intensity was negatively correlated with various indicators of educational success. These bivariate relationships are generally consistent with previous findings. The present analyses provide the additional advantages of nationally representative samples and numbers of cases large enough to permit fairly fine-grained analyses. Furthermore, our findings regarding

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[33]Bachman, J.G., Bare, D.E., & Frankie, E.I. (1986). *Correlates of employment among high school seniors* (Monitoring the Future Occasional Paper No. 20). Ann Arbor, MI: University of Michigan, Institute for Social Research.

[34]Bachman, J.G. & Schulenberg, J.S. (1993). This review adapted from How part-time work intensity relates to drug use, problem behavior, time use, and satisfaction among high school seniors: Are these consequences or merely correlates? *Developmental Psychology, 29*,(2):220-235.

health-related behaviors (perhaps reflecting time constraints) add important new information to the growing body of literature on the possible impacts of part-time work on psychosocial development during adolescence.

The large samples permitted detailed examination of the shapes of relationships with hours of work. Although we did find some patterns that departed from linearity, such departures were not consistent across variables and were often not even consistent between male and female seniors on the same variable. By far the most dominant finding was that with each increase in number of hours worked (beyond 5 hours), the associated problems also increased.

We found that students who did less well in school than their peers tended to work long hours in part-time jobs. More specifically, we found that students who had poor grades at some point during their primary or secondary schooling were more likely to work long hours in part-time jobs by the time they reached the end of their senior year in high school. Although we are citing only correlational findings obtained from cross-sectional data, we view this evidence as strongly suggesting that prior educational successes, failures, and adjustments have a lot to do with adolescents' willingness to commit long hours to employment while still enrolled in school. In other words, although work intensity may make some additional contributions to poor school performance, we think the predominant causal process underlying these correlations is that students with a history of poorer performance and less interest in schooling are, as a consequence, more willing to spend long hours in a part-time job.

In summary, the bivariate data on drug use and other problem behaviors clearly show positive correlations with work intensity, but we think it may be useful to interpret this set of findings as reflecting a syndrome of behaviors that are interrelated and at least to some extent mutually reinforcing. Working long hours is not the first of such behaviors to emerge, by any means. An early indicator in some cases is that a student is held back a grade in school. Poor grades in general can also be an early indicator. Early initial use of cigarettes and alcohol, as well as marijuana and other illicit drugs, are yet other factors in the syndrome. In many (but not all) cases, it seems appropriate to treat long hours of part-time work as a part of such a syndrome of problem behaviors or precocious development. Thus construed, heavy time commitment to employment can be seen as an important symptom of a potentially wide range of psychosocial difficulties.

In a related analysis presented at the 1993 meeting of the Society for Research on Child Development,[35] we extended our efforts to understand the impact of part-time work on adolescent development by focusing on the quality of work experience. The first purpose of the investigation was to examine the impact of the quality of the work experience among adolescent workers on health and well-being in terms of : substance use, overall affect, and perceptions of whether the job causes stress and impinges upon other life domains. The quality of work experience was represented by: 1) skill utilization, 2) future connection, 3)

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[35]Schulenberg, J.S. & Bachman, J.G. (1993, April 19). Long hours on the job? Not so bad for some adolescents in some types of jobs: The quality of work and substance use, affect, and stress. In Mortimer, J.T. & Schulenberg, J.S. (Chairs) *Adolescent work and development in context: New evidence from urban, rural, and national data.* Symposium presented at the 1993 Biennial Meetings of the Society for Research on Child Development, New Orleans, LA. Presented March 26, 1993.

money-only orientation, 4) work-school connection, and 5) community. The second purpose was to examine whether these characteristics representing the quality of work experience served to *moderate* the negative relation between work intensity and health and well-being. Data were drawn from 20,549 students from the 1982-1991 senior year cohorts. Based on a series of multivariate analyses of covariance (controlling for parent education, high school GPA, and race/ethnicity), the findings indicated that adolescents who were in jobs that they perceived as not making good use of their talents and skills, as being unconnected to their anticipated future job, and as being the type of job that one does only "for the money," were more likely to suffer decrements in their health and well-being *as work intensity increased*. In contrast, adolescents who perceived their jobs as being relevant to their current and future educational and occupational pursuits appeared to be less susceptible to difficulties associated with increased work intensity. In short, our findings argue against an exclusive concern with hours of work, and for increased concern for the quality of the work experience.

OTHER DATA ON CORRELATES AND TRENDS

Hundreds of correlates of drug use, without accompanying interpretation, may be found in the series of annual volumes from the study entitled *Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors*.[36] For each year since 1975, a separate hardbound volume presents univariate and selected bivariate distributions on all questions contained in the study. A host of variables dealing explicitly with drugs–many of them not covered here–are contained in that series. Bivariate tables are provided for *all* questions each year distributed against an index of lifetime illicit drug involvement, making it possible to examine the relationship between hundreds of potential "risk factors" and drug use.

A special cross-time reference index is contained in each volume to facilitate locating the same question across different years. One can thus derive *trend* data on some 1500 to 2000 variables for the entire sample or for important subgroups (based on sex, race, region, college plans, and drug involvement).

[36]This series is available from the Monitoring the Future Project, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan 48109.

Appendix 1

PREVALENCE AND TREND ESTIMATES ADJUSTED FOR ABSENTEES AND DROPOUTS

One question which has arisen over the years in regard to this study has concerned the degree to which the prevalence and trend estimates derived from twelfth graders are an accurate reflection of the reality which pertains for all young people who would be in the same class or age cohort, including those who have dropped out of school by senior year. In 1985 we published an extensive chapter on this topic in a volume in the NIDA Research Monograph series.[37] We will attempt in this Appendix to summarize the main points relevant to this issue of sample coverage.

First, it should be noted that two segments of the entire class/age cohort are missing from the data collected each year from seniors: those who are still enrolled in school but who are absent the day of data collection (the "absentees") and those who have formally left school (the dropouts). The absentees constitute virtually all of the nonrespondents shown in the response rate given in Table 2 in Chapter 3 of this volume (since refusal rates are negligible) or about 18% of all seniors (or 15% of the class/age cohort). Based on our review of available Census data the dropouts by twelfth grade account for approximately 15% of the class/age cohort.

The methods we used to estimate the prevalence rates for these two missing segments are summarized briefly here. Then, the effects of adding in these two segments to the calculation of the overall prevalence rates for two drug classes are presented along with the impact on the trend estimates. Two illicit drugs have been chosen for illustrative purposes: marijuana, the most prevalent of the illicit drugs, and cocaine, one of the more dangerous and less prevalent drugs. Estimates for high school seniors are presented for both lifetime and 30-day prevalence for each drug.

CORRELATIONS FOR LOWER GRADE LEVELS

Before those correction estimates are given, however, it should be noted that, of the three grades under study, the twelfth grade represents the "worst case" of underestimation for the cohort. This is because the two missing segments–dropouts and absentees–are for smaller proportions of the total cohorts for the eighth and tenth grades.

With regard to dropouts, since most dropping out occurs after tenth grade, a considerable proportion of the eventual dropouts are still in school; and very little dropping out has

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[37]Johnston, L.D., & O'Malley, P.M. (1985). Issues of validity and population coverage in student surveys of drug use. In B.A. Rouse, N.J. Kozel, & L.G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, DC: U.S. Government Printing Office.

occurred by eighth grade.[38] Thus any corrections for the missing dropouts should be negligible at eighth grade and quite small at tenth grade.

Regarding absentees, Table 2, presented earlier, shows that while absentees comprise 16% of the seniors who should be in school, they comprise only 12% of tenth graders and 10% of eighth graders. Thus, the change in prevalence estimates which would result from corrections from this missing segment also would be considerably less than for twelfth graders.

In sum, the modest corrections which will result from the corrections for dropouts and absentees at the twelfth grade level set outside limits for what would be found at eighth and tenth grade; in fact, it is clear that the corrections would be considerably smaller at tenth grade and far smaller at eighth grade. Since the corrections about to be described for twelfth graders turn out to be modest ones, we have not made comparable corrections for eighth and tenth graders.

THE EFFECTS OF MISSING ABSENTEES

To be able to assess the effects on the estimates of twelfth grade drug use of missing the absentees, we included a question in the study which asks students how many days of school they had missed in the previous four weeks. Using this variable, we can place individuals into different strata as a function of how often they tend to be absent. For example, all students who had been absent 50% of the time could form one stratum. Assuming that absence on the day of the administration is a fairly random event, we can use the respondents in this stratum to represent all students in their stratum, including the ones who happen to be absent that particular day. By giving them a double weight, they can be used to represent both themselves and the other 50% of their stratum who were absent that day. Those who say they were in school only one-third of the time would get a weight of three to represent themselves plus the two-thirds in their stratum who were not there, and so forth. Using this method, we found that absentees as a group have appreciably higher than average usage levels for all licit and illicit drugs. However, looking at 1983 data, we found that their omission did not depress any of the prevalence estimates in any of the drugs by more than 2.7%, due to the fact that they represent such a small proportion of the total target sample. Considering that a substantial proportion of those who are absent likely are absent for reasons unrelated to drug use–such as illness and participation in extracurricular activities–it may be surprising to see even these differences. In any case, from the point of view of instruction policy or public perceptions, the small "corrections" would appear to be of little or no significance. (The correction in 1983 across all 13 drugs in lifetime prevalence averaged only 1.4%.) Further, such corrections should have virtually no effect on cross-time

[38] According to the *Statistical Abstract of the United States 1992*, the proportion of the civilian non-institutionalized population of the United States enrolled in school is 99.7% among 7-13 year olds and 98.8% among 14-15 year olds. It drops to 93.3% for 16-17 year olds combined, but there is probably a considerable difference between age 16 and age 17. Eighth graders in the spring of the school year are mostly (and about equally) 13-14 years old; while tenth graders are mostly (and about equally) 15 and 16 years old. These data, then, would suggest that dropouts are no more than 0.8% of eighth graders and 4.0% of tenth graders. U.S. Department of Commerce. (1992). *Statistical Abstract of the United States 1992: The National Data Book*. (112th Ed.) Washington, D.C.: Bureau of the Census. (p. 143)

trend estimates unless the rate of absenteeism was changing appreciably; and we find no evidence in our data that it has. Put another way, the presence of a fairly slight underestimate which is constant across time should not influence trend results. Should absentee rates start changing, then it could be argued more convincingly that such corrections should be presented routinely.

THE EFFECTS OF MISSING DROPOUTS

Unfortunately, we cannot derive corrections from data gathered from seniors to impute directly the prevalence rates for dropouts, as we did for absentees, since we have no completely appropriate stratum from which we have "sampled". We do know from our own previous research, as well as the work of others, that dropouts have prevalence rates for all classes of drugs substantially higher than the in-school students. In fact, the dropouts may be fairly similar to the absentees.

We have consistently estimated the proportion who fail to complete high school to be approximately 15%; Figure A-1 displays the completion rate for the years 1972 through 1992 based on Census data. As the figure indicates, completion rates (and the complement, dropout rates) have been quite constant over this interval for persons 20-24 years old.[39] (Younger age brackets are more difficult to use because they include some young people who are still enrolled in high school.) Monitoring the Future probably covers some small proportion of the 15%, in fact, since the survey of seniors takes place a few months before graduation, and not everyone will graduate. On the other hand, perhaps 1% to 2% of the age group which Census shows as having a diploma get it through a General Equivalency Degree and thus would not be covered in Monitoring the Future. (Elliott and Voss report this result for less than 2% of their sample in their follow-up study of 2617 ninth graders in California who were followed through their high school years.[40]) So these two factors probably cancel each other out. Thus, we use 15% as our estimate of the proportion of a class cohort not covered.

Extrapolating to dropouts from absentees. To estimate the drug usage prevalence rates for this group we have used two quite different approaches. The first was based on extrapolations from seniors participating in this study. Using this method we developed estimates under three different assumptions: that the difference between dropouts and the participating seniors in the study was equivalent to (a) the difference between absentees and the participating seniors, (b) one and one-half times that difference, and (c) twice that difference. The last assumption we would consider a rather extreme one.

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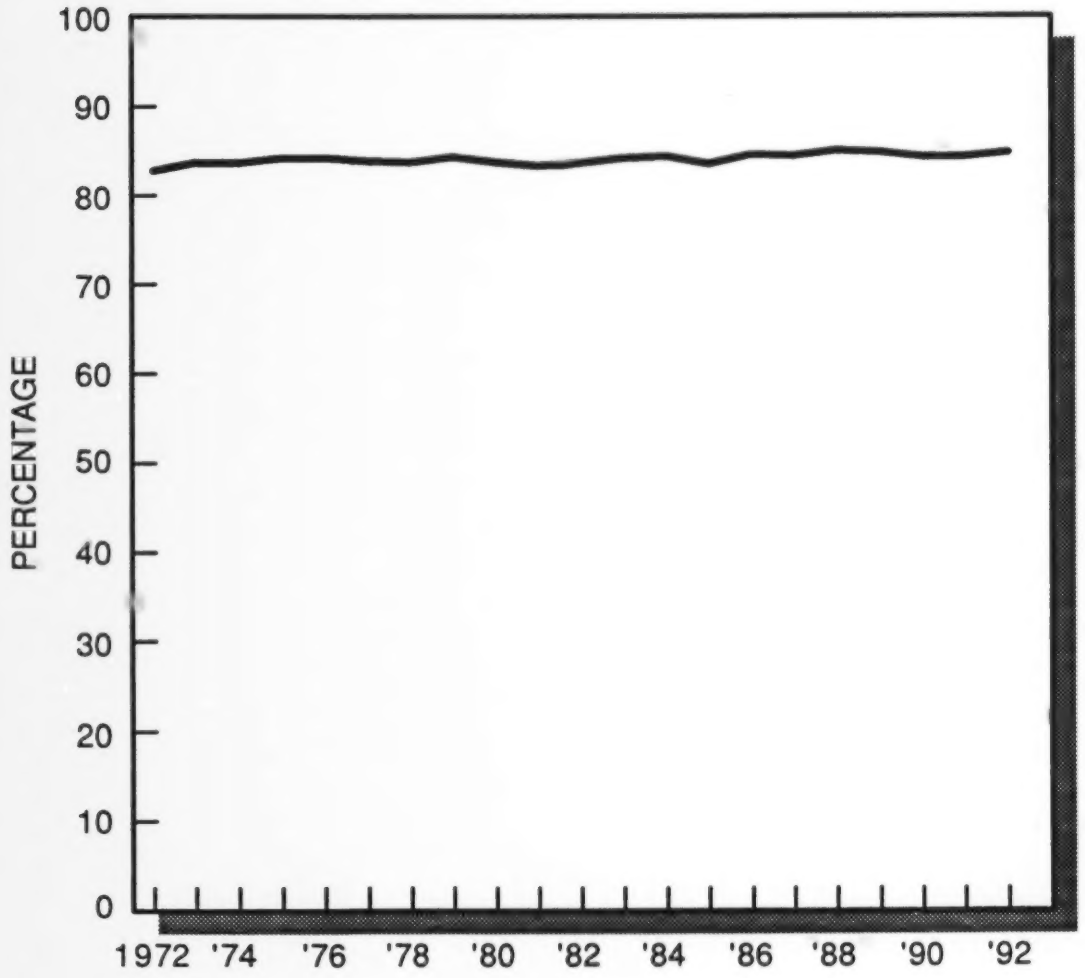
[39]U.S. Bureau of the Census (various years). *Current population reports, Series P-20*, various numbers. Washington, DC: U.S. Government Printing Office.

[40]Elliott, D., & Voss, H.L. (1974). *Delinquency and dropout*. Lexington, MA: D.C. Heath-Lexington Books.

FIGURE A-1

High School Completion by Persons 20-24 Years Old, 1972-1992
U.S. Population



Source: U.S. Bureau of the Census, Current Populations Surveys, published and unpublished data; and 1980 Census.

The second general method involved using the best national data on drug use among dropouts–namely the National Household Surveys on Drug Abuse.[41] While these surveys have rather small samples of dropouts in the relevant age range in any given year, they should at least provide unbiased estimates for dropouts still in the household population.

Using the first method of estimation, we found that, under the assumption that dropouts are just like absentees, no prevalence rate was changed by more than 5% over the estimate based on 1983 seniors only, even with the simultaneous correction for both absentees and dropouts. (The method for calculating prevalence rates for the absentees is the one described in the previous section.) The largest correction in 1983 involved marijuana, with lifetime prevalence rising from just under 60% to 64%. Even under the most extreme assumption–which results in exceptionally high prevalence rates for dropouts on all drugs, for example 90% lifetime prevalence for marijuana, the overall correction in any of the prevalence figures for any drug remains less than 7.5%. Again, marijuana shows the biggest correction (7.5% in annual prevalence, raising it from 46% uncorrected to 54% with corrections for both absentees and dropouts). As we would have expected, the biggest proportional change occurs for heroin, since it represents the most deviant end of the drug-using spectrum and thus would be most associated with truancy and dropping out.

Extrapolating from the household surveys. The second method of estimating drug use among dropouts was by comparing the household survey data on dropouts with the data from those remaining in school. We conducted secondary analyses of the archived data from the 1977 and 1979 National Household Surveys. Analyses were restricted to the age range 17 to 19 years old, since about 95% of the Monitoring the Future respondents fall in this range. Of course, the numbers of cases are small. In the 1977 survey there were only 46 dropouts and 175 enrolled seniors in this age group. In the 1979 survey 92 dropouts and 266 seniors were included.

For marijuana, the estimated differences from the household survey data came out at a level which was at or below the least extreme assumption made in the previous method (where dropouts are assumed to have the same drug use levels as absentees). While this may have been comforting to the authors of the present report, we must admit that we believe these household samples underrepresented the more drug-prone dropouts to some degree. Thus we concluded that estimates closer to those made under the second assumption in the previous method may be closer to reality–that is, that dropouts are likely to deviate from participating seniors by one and one-half times the amount that absentees deviate from them.

Again, we emphasize that there are a number of reasons for dropping out, many of which bear no relationship to drug use, including economic hardship in the family and certain learning disabilities and health problems. At the national level, the extreme groups such as those in jail or without a permanent place of residence are undoubtedly very small as a proportion of the total age groups and probably even as a proportion of all dropouts. Thus, regardless of their prevalence rates, they would be unable to move the prevalence estimates by a very large proportion except in the case of the most rare events–in particular, heroin

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[41]Fishburne, P.M., Abelson, H.I., & Cisin, I. (1980). *National survey on drug abuse: Main findings, 1979* (NIDA (ADM) 80-976). Washington, DC: U.S. Government Printing Office. Also see Miller, J.D., et al., (1983). *National survey on drug abuse: Main findings, 1982* (NIDA (ADM) 83-1263). Washington, DC: U.S. Government Printing Office.

use. We do believe that in the case of heroin use–particularly regular use–we are very likely unable to get a very accurate estimate even with the corrections used in this paper. The same may be true for crack cocaine and PCP. For the remaining drugs, we conclude that our estimates based on participating seniors, though somewhat low, are not bad approximations for the age group as a whole.

Effects of omitting dropouts in trend estimates. Whether the omission of dropouts affects the estimates of trends in prevalence rates is a separate question, however, from the degree to which it affects absolute estimates at a given point in time. The relevant issues parallel those discussed earlier regarding the possible effects on trends of omitting the absentees. Most important is the question of whether the rate of dropping out has been changing in the country, since a substantial change would mean that seniors studied in different years would represent noncomparable segments of the whole class/age cohort. Fortunately for the purposes of this study, at least, the official government data provided in Figure A-1 indicate a very stable rate of dropping out since 1972.

Given that there appears to be no sound evidence of a change in the dropout rate, the only reason that trend data from seniors would deviate from trends for the entire class cohort (including dropouts) would be if the constant proportion who have been dropping out showed trends contrary to those observed among seniors; and even then, because of their small numbers, they would have to show dramatically different trends to be able to change the trend "story" very much for the age group as a whole. There has been no hypothesis offered for such a differential shift among dropouts which these authors, at least, find very convincing.

The one hypothesis which is occasionally heard is that more youngsters are being expelled from school, or voluntarily leaving school, because of their drug use; and that this explains the recent downturn in the use of many drugs being reported by the study. However, it is hard to reconcile this hypothesis with the virtually flat dropout rates over the period displayed in Figure A-1, unless one posits a perfectly offsetting tendency for more completion among those who are less drug prone–hardly a very parsimonious explanation. Further, the reported prevalence of some drugs remained remarkably stable throughout much of the life of the study (e.g., alcohol and opiates other than heroin) and the prevalence of some has risen (cocaine until 1987, and amphetamines until 1981). These facts are not very consistent with the hypothesis that there has been a recent increased rate of departure by the most drug prone. Certainly more youngsters leaving school in the 1980s have drug problems than was true in the 1960s. (So do more of those who stay in.) However, they still seem likely to be very much the same segment of the population, given the degree of association that exists between drug use and deviance and problem behaviors of various sorts.

SUMMARY AND CONCLUSIONS

In sum, while we believe there is some underestimation of the prevalence of drug use in the cohort at large as a result of the dropouts being omitted from the universe of the study, we think the degree of underestimation is rather limited for all drugs (with the possible exceptions of heroin, crack, and PCP) and, more importantly, that trend estimates have been rather little affected. Short of having good trend data gathered directly from dropouts–a

more expensive and technically difficult research effort which we are only now in a position to undertake–we cannot close the case definitively. Nevertheless, we think the available evidence argues strongly against alternative hypotheses–a conclusion which was also reached by the members of the NIDA technical review on this subject held in 1982.[42]

> . . . the analyses provided in this report show that failure to include these two groups (absentees and dropouts) does not substantially affect the estimates of the incidence and prevalence of drug use.

EXAMPLES OF REVISED ESTIMATES FOR TWO DRUGS

Figure A-2 provides the prevalence and trend estimates of marijuana and cocaine, for both the lifetime and thirty-day prevalence periods, showing (a) the original estimates based on participating seniors only; (b) the empirically derived, revised estimates based on all seniors, including the absentees; and (c) estimates for the entire class/age cohort. The last estimate was developed using the assumption judged to be most reasonable above–namely that the dropouts differ from participating seniors by one and one-half times the amount that the absentees do. Estimates were calculated separately for each year, thus taking into account any differences from year to year in the participation or absentee rates. The dropout rate was taken as a constant 15% of the age group across all years, based on Census estimates.

As Figure A-2 illustrates, any difference in the slopes of the trend lines between the original and revised estimates is extremely, almost infinitesimally, small. The prevalence estimates are higher, of course, but not dramatically so, and certainly not enough so to have any serious policy implications. As stated above, the corrections for eighth and tenth grade samples should be considerably less, and there is certainly no reason to think that absentee or dropout rates at those levels have changed since 1991 in a way which could change their trend stories. Therefore, we have confidence that the trend stories which have shown up for the in-school populations represented in this study would be very similar to the trend stories which would pertain if the entire age cohorts had been the universes from which we sampled.

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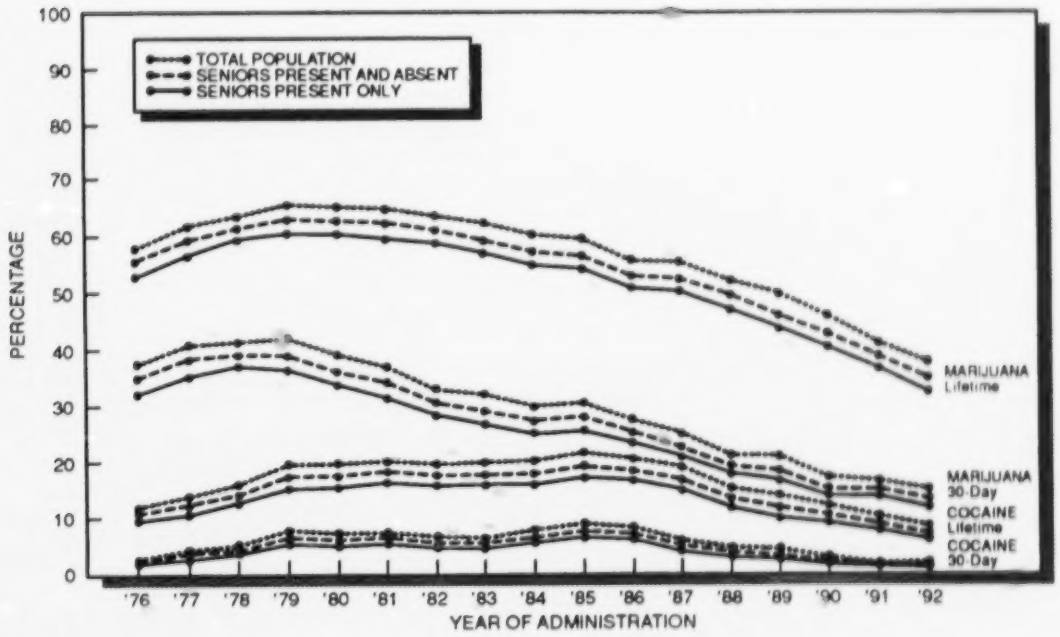
[42]Clayton, R.R. & Voss, H.L. (1982). *Technical review on drug abuse and dropouts.* Rockville, MD: National Institute on Drug Abuse.

FIGURE A-2

Estimates of Prevalence and Trends for the Entire Age/Class Cohort, Adjusting for Absentees and Dropouts for Twelfth Graders



Appendix 2

DEFINITION OF BACKGROUND AND DEMOGRAPHIC SUBGROUPS

Throughout this volume data are presented for the total sample of eighth, tenth and twelfth graders. Data are also presented for many subgroups of students. The following are brief descriptions of the background and demographic subgroups used in this volume.

Total: The total sample of respondents in a given year of the study.

Sex: ***Male and female.*** Respondents with missing data on the question asking the respondent's sex are omitted from both groupings.

College Plans: Respondents not answering the college plans question are omitted from both groupings. (Among those who do not expect to complete a four-year college program a number still expect to get some post-secondary education.) College plans groupings are defined as follows:

None or under 4 years. Respondents who indicate they "definitely won't" or "probably won't" graduate from a four-year college program.

Complete 4 years. Respondents who indicate they "definitely will" or "probably will" graduate from a four-year college program.

Region: Region of the country in which the respondent lives. There are four mutually exclusive regions of the country. The regional classifications are based on Census categories which are defined as follows:

Northeast. Census classifications of New England and Middle Atlantic states; includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.

North Central. Census classifications of East North Central and West North Central states; includes Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

South. Census classifications of South Atlantic, East South Central, and West South Central States; includes Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

West. Census classifications of Mountain and Pacific states: includes Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

Population Density:

Population density of the area in which the schools are located. There are three mutually exclusive groups which are defined below. (1975-1985 samples are based on the 1970 Census; in 1986 one-half of the sample is based on the 1970 Census, the other half of the sample is based on the 1980 Census; after 1986 the samples are based on the 1980 Census. The three groups are defined in terms of Standard Metropolitan Statistical Area (SMSA) designations through 1985, when we changed to the new Census Bureau classifications of Metropolitan Statistical Areas (MSAs), as is described below:

Large SMSAs. In the 1975-1985 samples these are the twelve largest Standard Metropolitan Statistical Areas (SMSA) as of the 1970 Census: New York, Los Angeles, Chicago, Philadelphia, Detroit, San Francisco, Washington, Boston, Pittsburgh, St. Louis, Baltimore and Cleveland. In samples collected after 1986 the "large SMSA" group consisted of the 16 largest SMSAs as of the 1980 Census. These 16 SMSAs include all of the SMSAs mentioned above (except Cleveland) and the SMSAs of Dallas-Fort Worth, Houston, Nassau-Suffolk, Minneapolis-St. Paul and Atlanta.

Other SMSAs. Includes all other Standard Metropolitan Statistical Areas except those listed above. Except in the New England States, an SMSA is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In the New England States SMSAs consist of towns and cities instead of counties. Each SMSA must include at least one central city, and the complete title of an SMSA identifies the central city or cities. For the complete description of the criteria used in defining SMSAs, see the Bureau of the Budget publication, *Standard Metropolitan Statistical Areas: 1967,* U.S. Government Printing Office, Washington, D.C. 20402. The population living in SMSAs is designated as the metropolitan population.

Non-SMSAs. Includes all areas not designated as SMSAs (or MSAs). The population living outside SMSAs constitutes the nonmetropolitan population.

Parental Education: This is an average of mother's education and father's education reported on the following scale: (1) completed grade school or less, (2) some high school, (3) completed high school, (4) some college, (5) completed college, (6) graduate or professional school after college. Missing data was allowed on one of the two variables.

Race/Ethnicity: ***White.*** Includes those respondents who describe themselves as White or Caucasian.

Black. Includes those respondents who in 1975-1990 describe themselves as Black or Afro-American, or who after 1990 describe themselves as Black or African-American.

Hispanic. Includes those respondents who in 1975-1990 describe themselves as Mexican American or Chicano, or Puerto Rican or other Latin American. After 1990 this group includes those respondents who describe themselves as Mexican American or Chicano, or Cuban American, or Puerto Rican American, or other Latin American.

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